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ABSTRACT

These guidelines for writing a learning activity packet (LAP) include a rationale for self instruction; suggested format for writing a LAP; analysis of the LAP format item by item; general instructions for writing a LAP; examples of performance objectives; affective domain attitudinal objectives; and student/teacher contracts for learning; suggested learning activities, other self instructional techniques, a definition of self instruction, and some self instructional strategies; a suggested LAP evaluation form; and an example of a short student produced LAP, "Welcome to the World of Videotaping." Supporting materials provided in the second section include discussions of the Socratic method, the fourth dimension of learning, individual differences, the role of self image in teaching and learning, the effect of stress on learning, and a 37-item bibliography. (LLS)

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THOMAS KEITH MIDGLEY

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TABLE OF CONTENTS

PART I: WRITING A LEARNING ACTIVITY PACKET	Page
A Rationale for Self Instruction	1
Introduction to the LAP	
Meet the LAP!	3
What is a Learning Activity Packet?	6
How is the LAP Used?	7
What is the Role of the Teacher?	8
Who Should Write Learning Activity Packets?	9
What Does the LAP Include?	11
Suggested format for Writing A LAP	12
Analysis of the LAP Format Item by Item	13
General Instructions for Writing your LAP	23
Some Examples of Performance Objectives	25
Some Examples of Affective Domain Attitudinal Objectives	27
Examples of Student/Teacher Contracts for Learning	29
A List of Suggested Learning Activities	32
Other Self Instructional Techniques	35
A Definition of Self Instruction	40
A List of Some Self Instructional Strategies	41
Suggested LAP Evaluation Form	42
Example of a Short Student Produced LAP	44
PART II: LEARNING ABOUT LEARNING	
Learning: By Gulps or Sips	45
The Socratic Method of Teaching	49
The Fourth Dimension of Learning	53
Individual Differences	59
Self Image and Its Role in Teaching and Learning	68
Stress and Its Affect on Learning	70
Shunpiking, Pills and Power Mowers	75
Selected Bibliography	82

DEDICATION

To TEACHERS who dedicate their lives

To LEARNERS . . .

NO MAN GOETH ABOUT A MORE GODLY BUSINESS THAN HE WHO IS ENGAGED IN THE RIGHTEOUS UPBRINGING OF HIS OWN AND OTHER PEOPLE'S CHILDREN.

-- ARISTOTLE

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By T. K. Midgley

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ABOUT THE AUTHOR . . .

Dr. Thomas Keith Midgley taught in the public schools in Utah for twelve years. He then attended Indiana University where he obtained his doctorate degree in Audio-Visual Communications, Curriculum Development and History. Upon finishing his degree he taught at Long Beach State College and was the assistant director for the Audio-Visual Center. During the last eight years he has been at Eastern Washington State College where he is an associate professor in the Education Department and is the director of the Center for Instructional Communications and the adviser for the master's degree programs in Instructional Media.

PART I

WRITING A LEARNING ACTIVITY PACKET

WRITING A LEARNING ACTIVITY PACKET

A RATIONALE FOR SELF-INSTRUCTION

The following averments are but a partial statement concerning philosophical underpinnings upon which the strategies of self-selection, self-instruction and continuous progress rest.

... Each individual has a unique growth pattern.

... It is the uniqueness of growth patterns which gives rise to individual differences.

... All living things are purposive.

... The thrust for growth and development is inherent in the human organism.

... The direction of the growth process is toward self-development, self-realization and self-enhancement.

... Everyone is born with a capacity to learn, but no two individuals have the same capacity . . . variability, not uniformity of learning, is the biological inheritance.

... Learning is self-selective in that the individual picks up from the outside environment that which it accepts to satisfy its need as it experiences such need.

... When the environment is rich in nutrients, growth is rapid and sound. When environment lacks necessary materials, growth is slow and anemic.

... The control of continuity of learning is basically with the learning.

... We learn best by the involvement of the total self. Therefore, we should construct a method which will involve as much doing as possible.

... I hear and I forget, I see and I remember, I do and I learn.

... We learn to do by doing.

... Commitment is at the heart of learning; without positive commitment, most learning becomes limp and barren.

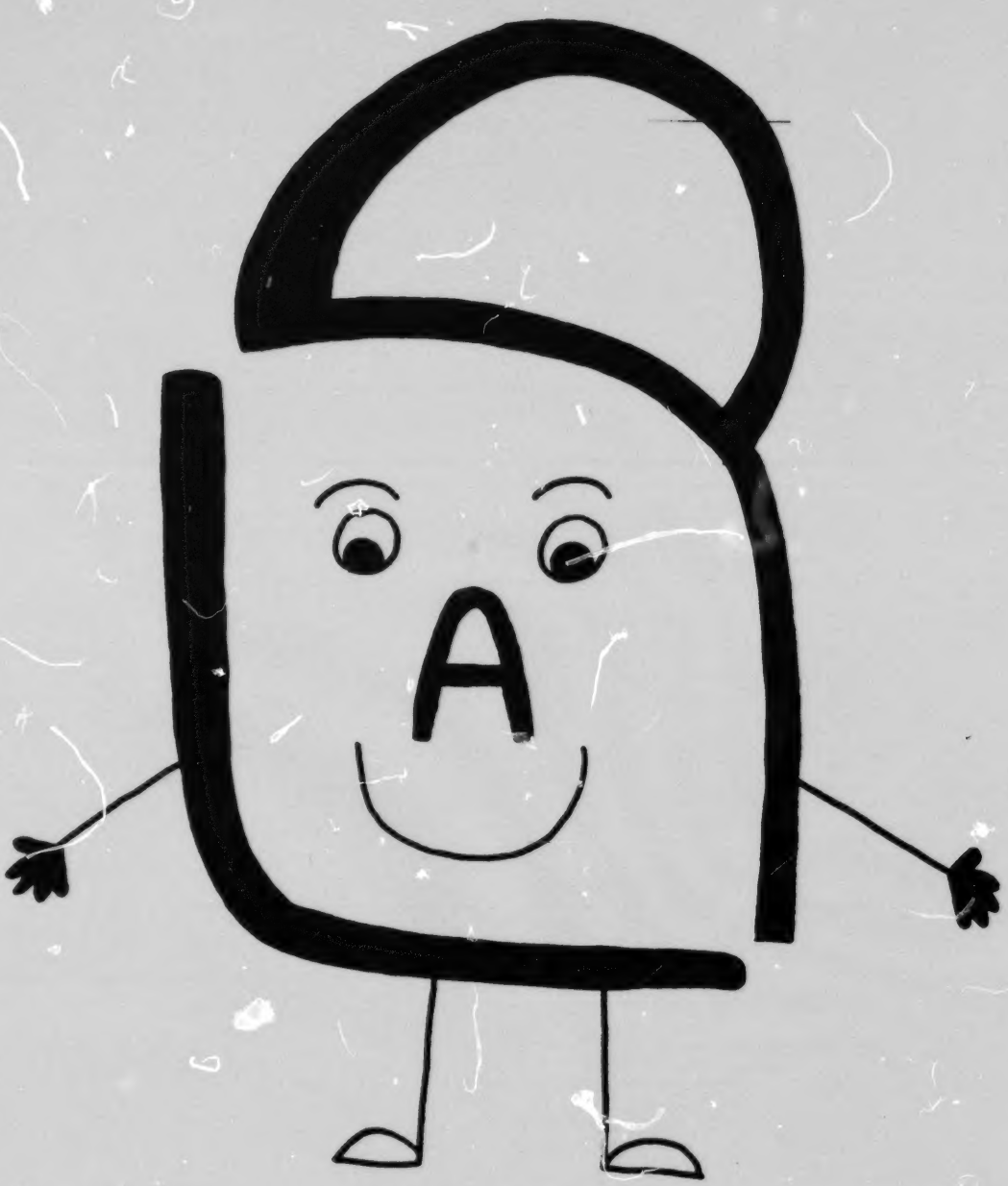
... Commitment is learned through successful practice.

... People learn best when they focus on information in which they are interested.

... The roles of the teacher, in light of the above principles, are:

Arranger of environment
Setter of emotional atmosphere
Facilitator of experiences
Interpreter of experiences
Evaluator
Counselor
Model

Ideally the teacher invites, supports, encourages. He guides students so that they can discover, release and develop their potential capacities.

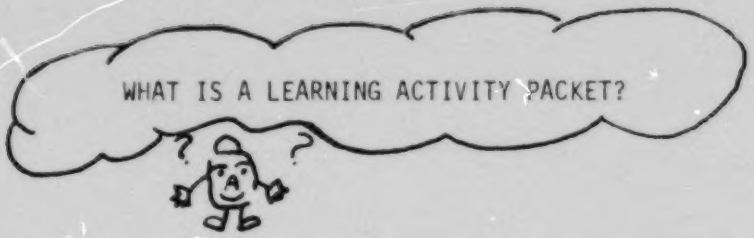


MEET THE LAP!

MEET THE LAP!

With changes occurring in the schools in curriculum and enrollments, it becomes increasingly more difficult for a teacher to work with all students on an individual basis. An additional problem is the transfer student or the student who has been ill and missed information and learning experiences. To attempt to meet these problems, schools throughout the nation are implementing many educational systems, methods, instructional strategies and designs for the basic purpose of inculcating into their programs more individualized teaching and learning. The following words and phrases are but a partial list of the educational techniques, methods or ideas that are being tried and tested in the schools.

All-Male Kindergarten
Alternative Schools
Atlanta School System
Behavior Modification in the Elementary Schools
Continuous Progress
Contractual Learning
Differentiated Staffing
Earth Sciences in Elementary Schools
Flexible Scheduling
Hardware in the Schools
Independent Study
Individual Selected Instruction
Individual Style
Individualized Instruction
i/t/a
Middle Schools
Modular Competency and Performance Based Instruction
Montessori in Elementary Schools
Own Personal Track
Open Concept School
Paid Internship for Student Teaching
Para Professionals
Parent Aides
Performance Contracting
Performance Objectives
PLAN
Programmed Learning
Quarter System in High Schools
Self-paced Learning
Socrates
Student Assistants
Teacher Aides
Twelve-Month School Year
Ungraded School
Volunteers in the Schools



A Learning Activity Packet or LAP, is a collection or packet of self-teaching materials and learning activities organized around some basic concept. It is primarily designed and structured as a guide for individual and independent use although a LAP can be used by the instructor for small or large group learning.

The LAP can be written on almost any subject and grade level centering on learnable ideas, skills and attitudes. The LAP is built around learning activities or learning tasks that are designed to build competencies and meet specific performance objectives.

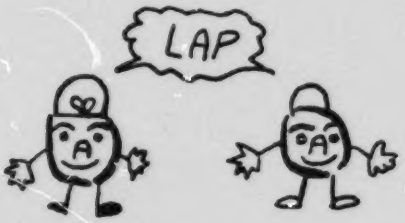
A rose by any other name does smell as sweet. Likewise, learning materials that are well-designed and systemized for individual use, no matter by what name they are called, are also just as effective.

For example, terms such as "Teaching Packages," "Learning Kits," "Study Systems," "Learning Systems," "Learning Pacs," or UNIPAC," etc., are some of the names that are currently being utilized in many areas to describe systems for self-instruction.

To all this a teacher might say, "Isn't this just a list of things that are being tried in order to help teaching? After all, isn't education still the process of having a good teacher in the classroom, a room full of kids and the teacher doing what he or she can do best?"

In order to truthfully answer these questions we must say NO! Our emphasis should be on the words learn and learner not on teach and teacher. Our schools are working with these ideas in order to focus more on the learner and learning process.

Problems that have confronted the schools in this endeavor are caused primarily by traditional facilities, space, organization, standard time blocks and retrieval of book and non-book resources. In most cases these factors have all been designed for group-paced instruction. New approaches, however, in building construction, flexible scheduling and more diversified use of spare time are fostering more creative programs to meet individual differences. Of all the techniques employed for individualized instruction none has been more satisfying and enthusiastically received by both the teacher and the student than the use of the Learning Activity Packet.



HOW IS THE LAP USED?

Learning Activity Packets may be used to enable students to achieve at their own pace, commensurate with their own abilities. This would make LAPs particularly adaptable for all students, whether they be fast learners or slow learners.

As previously pointed out, the LAP is especially effective for the transfer student or the individual who has been absent or ill and has missed certain aspects of the year's curriculum. Students may progress at their own rate, for the primary responsibility for obtaining information, concepts and skills rests with them.

The learner chooses a Learning Activity Packet topic that holds personal interest. He then uses the packet as a guide to learning experiences and activities related to the chosen topic. Through the use of the LAP, the learner acquires performance abilities and competencies line upon line and precept upon precept.

WHAT IS THE ROLE OF THE TEACHER?

Very simply, a Learning Activity Packet is given to the student to do at his own rate of speed. The teacher is, therefore, freed to help students with problems or to give reinforcement to students for their successes. In other words, the teacher is there to help the individual student on a one to one basis. Inasmuch as the LAP assumes more of the cognitive role of teaching (the knowledge, drill or repetition level), the teacher is free to be more creative and to work in the affective domain areas of learning with attitudes and feelings.

The most crucial aspect of teaching and learning is the interaction between the teacher and the learner. The psychological, emotional and attitudinal influences that result from the interaction between the instructor and the student are the most important factors that determine the quality and quantity of teaching and learning.

1 To 1

The teacher has more time for personalized teacher-student instruction, individual conferences, monitoring student progress, diagnosing learning problems, prescribing learning materials, methods, activities and experiences and evaluating students' progress toward desired competencies of performance objectives.

WHO SHOULD WRITE THE LEARNING ACTIVITY PACKETS?

YOU

the teacher

and

YOU

the students

A Learning Activity Packet can be written by almost anyone who is willing to do research in a learning area.

After assisting several hundreds of people in the writing of Learning Activity Packets the writer has found that exceptionally good packets can be written by students and teachers even though they have had little or no previous writing experience or even extensive experience with the topic they write about. The individual without previous experience needs to spend more time, however, in the research process than does the individual who has had a rich background within the area.

The point is that a good LAP can be written by almost anyone who is willing to pay the price in time and effort.

The team approach can also be utilized in the production of a LAP. This team effort can sometimes be an asset by providing a broader experience background for content, methods and learning activities.

[illegible] procedure is primarily due to the fact that the LAP can be, in most cases, locally produced by the teacher and/or the student based upon their local curriculum and needs.

The LAP is designed for individual instruction and is most effective when the student can use and retain his own copy of the packet and when there is available a wide variety of packets for a given area that can provide for more individual learning needs, interests and differences.

If you are considering the task of writing a Learning Activity Packet, you should do the following:

... Write your LAP as if you were the instructor of the student who will be going through your packet. Your job is to take the teacher's point of view and then organize and put into a sequential step-by-step pattern or design some concept you want someone to learn.

... A writer needs to prepare himself <u>first</u>, then the Packet.

... A writer prepares himself by first getting into the right mental <u>attitude</u>.

... A writer prepares at a pre-determined <u>place</u>.

... A writer prepares at a pre-determined <u>time</u>.

... A writer needs to be thoroughly acquainted with the topic he is going to write about

WHAT DOES THE LAP INCLUDE?

The LAP includes a clearly defined rationale for the basic concept and sub-ideas being presented, a list of observable behavioral objectives, a pre-test to help identify the entering level of learning, a wide range of learning activities in order to meet the varied learning needs of the students, a post-test for evaluation purposes and a good bibliography and list of related teaching/learning resources.

During the past few years several procedures for writing LAPs have been examined, tested and evaluated by the author for it was realized that an effective Learning Activity Packet of necessity needs to contain certain elements. The following LAP format is the result of several compilations, modifications and additions and is the result of his current thinking, research and experimentation.

SUGGESTED FORMAT FOR WRITING A LEARNING ACTIVITY PACKET

1. Title Page
2. Statement Concerning the Audience
3. Statement Concerning Purpose
4. Table of Contents
5. Outline the Major Concept and the Sub-Ideas
6. Write Your Observable Performance Objectives
7. Write Your Pre-test
8. Introduction to the Packet
9. List of New Vocabulary, Special Terms or Definitions
10. Make a List of the Materials and Equipment Needed in Order to Work With Your LAP
11. A Student/Teacher Contract
12. Presentation of Learning Activities, Content, Materials and Exercises
13. Review on Progress Checks -- or Self-test
14. Post-test and Evaluation and Suggestions
15. Additional Suggested Follow-up Activities
16. Bibliography and Resources Inventory
17. Suggestions for the Teacher
18. Appendix

ANALYSIS OF THE LAP FORMAT ITEM BY ITEM

Now that you have looked over the basic format of the LAP, we will take a detailed look at each item and make some additional suggestions.

Please read completely through these instructions carefully, at least once, before you start writing your LAP.

The following is an analysis of the suggested format for the Comprehensive Learning Activity Packet:

Item 1

... Title Page: List the title or topic of your packet, then your name as the author of the packet. You may want to include other information such as . . . where and when produced, location of the workshop, place, time, year, etc.

... It is important that the producer's name, a permanent address and a phone number be given so that contact concerning the packet can be made if a need arises.

... You should also include the names of those who have assisted you in the production of your packet. (Production Consultant: usually your instructor.)

... If you can . . . use some kind of "POW FACTOR" in order to get the attention and interest of the reader.

... The title should motivate and interest the learner.

... Try writing the title in such a way that it will affect the reader's attitude rather than just give a standard statement that mentions some knowledge or skill that is to be presented.

... "A Teacher that is attempting to teach without inspiring the pupil with a desire to learn, is hammering on cold iron."

Horace Mann

... Remember, you want to make learning interesting, enjoyable, fun and meaningful. In following a format for a Learning Activity Packet, you can still be creative. Use your imagination. Be friendly and personal.

Item 2

... Statement Concerning the Audience: Make a statement telling whom your packet was designed and written for and the grade level. (This item should be located at the top of the second page.)

... The following memory aid lists several factors that should be considered when analyzing any audience:

A--(Attitude) (Abilities)
U--(Level of Understanding)
D--(Differences) (Developmental level)
I--(Interests)
E--(Experiences)
N--(Needs)
C--(Competencies)
E--(Exertion) (the motivational factor)

In your packet, under Item 2, you should make a simple statement concerning the audience for which your LAP is designed. This should suffice and you do not need to discuss all the eight factors listed above. The factors mentioned in this memory aid are presented here in order to have you do a little more in-depth thinking about your audience as you proceed with your task of designing and organizing learning experiences for them.

Item 3

... Statement Concerning Purpose: This should be a rather general statement, short and to the point. (This item should be located near the middle or bottom of page two with Item 2.)

Item 4

... Table of Contents: This outline you are reading, consisting of these eighteen items, should help you in organizing the table of contents for your LAP.

... It is recommended that you make a copy of these eighteen items and use it as your table of contents. You should also use it as a check list and a guide as you construct your LAP.

Item 5

... Outline the Major Concept and the Sub-Ideas: Each LAP should be written around one basic selected concept with several supporting related sub-ideas that build to the concept. At this point you should include a short, clearly defined rationale for the selection of your major concept with its related ideas. If there is a need, you should define certain terms or ideas in order to have the reader understand what you plan to do.

... The major concept and the sub-ideas should be realistic and relevant to the audience for which the LAP is designed.

Item 6

... Write your Observable Performance Objectives: Your behavioral performance objectives are the most important aspect of your packet. The more complete these behavioral goals are and the more specific and structured they are, the easier it will be

for you to write and organize your learning activities in the packet to meet these objectives. All other ingredients of your packet should relate to your objectives. Your objectives should be written in observable behavioral terms, using action verbs (e.g., write, list, tell, make, diagram, construct, etc.). See page 25 for a list of some examples of good performance objectives.

... The literature uses different terminology in discussing objectives: problem solving objectives, behavioral objectives, enabling objectives, terminal objectives, critical objectives, specific objectives, criteria level objectives, etc. In this monograph, the author uses the terms observable performance objectives because he feels these adjectives are more descriptive and adequate.

... Behavioral or performance objectives are the things you want the students to do so that you can observe them as they do it or so that you can see the result or the product of something they have done. Your objectives not only should inform the student as to what he is expected to do, or needs to do, but also should specify the conditions and proficiency level of acceptability and performance.

... Good objectives not only tell what to do but also how to do them.

... Good objectives must relate directly to the main concept or topic of your LAP. They then point the direction for the teaching/learning tasks that you will organize.

... Well-defined performance objectives can be used as stepping stones to guide you and assist you in selecting and designing your learning activities.

... In most cases there should be at least one objective for each supporting idea, attitude or skill that is to be learned.

... As you write your objectives, underline the doing-action verbs (such as show, list, describe, draw, tell, choose, ask, gather, select, design, etc.).

... Whether your objectives are cognitive (knowledge), psychomotor (skills), or affective (attitudes), they all can be written in observable performance behavioral terms. You should try to have objectives in all three areas of learning. I think you will find that the objectives dealing with aspects of knowledge or skills are the easiest to define and write.

... Some suggested affective domain objectives could be written around activities of responding, expressing, feelings, evaluating, organizing, writing, listing, recommending, defending a point of view, selecting, questioning, proposing, criticizing, designing etc.

... See page 27 for a list of some examples of affective (attitudinal) objectives. Also read the article "The Socratic Method of Teaching" beginning on page 47.

... A good outline of objectives provides both the student and the teacher with an inventory tool for evaluation and self-assessment, both before and after exposure to the LAP.

... As you write your performance objectives, work with another student. Read one of your objectives to him and see if he can easily construct an observable terminal test item for that objective. If he can, then that objective is, in most cases, adequate.

Item 7

... Write Your Pre-test: The Pre-test is the first of three evaluation instruments utilized and spaced within the LAP. The other two are appropriate Reviews and the Post-test. The Pre-test is a pre-assessment of the student's existing level of knowledge, skills and attitudes concerned with the content of your Learning Activity Packet. It is to be presented to the student prior to exposure to your packet. You need this prior indication of level of competency in order to determine readiness for your LAP and to adequately measure any growth that occurs through the use of your packet and to assess the quality and value of your packet in accomplishing its objectives.

... The vocabulary of the Pre-test must be written at the learner's level. The directions need to be clear and easy to understand.

... The test should be so written that it is easy to take and to correct, without assistance from the instructor.

... The Pre-test should contain a precise statement as to the procedure to follow for scoring of the test. The key to the test should be easily accessible to the learner, but not in eye contact during the test.

... You should indicate where the answers to your Pre-test are located. (Either with the instructor or in the appendix of your packet.)

... If the student does well on your Pre-test, it might be wise to suggest to the student that he forego your packet and work on something else. Conceivably, some students may already be able to meet most of your objectives. If so, they should be guided to pursue only those objectives that still present some challenge.

Item 8

... Introduction to the Packet: This is the place where you present the instructions and the procedures that should be followed in order to use your packet. In a paragraph or two, you briefly

tell the student what you intend to do in the packet and, in a rather general way, how you will go about it. If there are assumptions, limitations, precautions or pre-requisites to your packet, or certain methods or techniques to be utilized in your packet, this is the place to present such information. Any special materials, techniques or methods included in or used with your LAP should also be listed or mentioned in this item.

Item 9

... A List of New Vocabulary, Special Terms or Definitions: If this item is not too extensive, it can be included on the same page with Item 8.

Item 10

... Make a List of the Materials and Equipment Needed in Order to Work with Your LAP: Be specific! For example, -- scratch paper, pencil, scissors, books, any special equipment, tape recorder, blank cassette cartridge, overhead projector, language master, film strip or slide projector, adapter plug, etc. (If possible, this item can also be included on the same page as Item 8.

Item 11

... A Student/Teacher Contract: If and when needed, this is an effective technique, especially in self-instructional packets that are to be used in kindergarten through twelfth grade where additional motivation or incentive can be an important factor.

... See page 29 for an example of a teacher/student contract.

... There are, however, other modifications of contractual learning that can be adapted to almost all subject areas and levels of learning.

Item 12

... Presentation of Learning Activities, Content, Materials and Exercises: This section is the body of the packet. You should write your material as if you were talking and working with a friend. Make your packet as interesting and as motivating as you possibly can. Remember to get your readers involved and participating in your interesting learning activities. These activities are the most vital aspect of your packet.

... Keep the following statement in mind:

I HEAR AND I FORGET
I SEE AND I REMEMBER
I DO AND I LEARN.

... Getting the student actively involved is the key factor in learning.

... The learning activities should relate to the performance objectives and to the student's performance level.

... Your packet should include a variety of learning activities, from five to seven different kinds of activities. Make them interesting, worthwhile and fun to do by using different media and materials in each activity.

... Illustrations, pictures, diagrams or actual photographs (Polaroid) should be utilized whenever possible. Short articles, informative listening tapes or cassettes, overhead transparencies, recorded language master cards, slides, filmstrips, 16mm or 8mm films, programmed materials, microform reference materials, locally made CCTV videotapes, models, mock-ups, dioramas, charts, posters, study trips, resource people, places and things, other realia, etc., can and should be used as learning activities in your packets if and when needed, depending of course, on availability, cost, applicability, need, relevant contribution and other variables.

... The individual "Task Card" is another technique that can be employed as a learning activity.

... The use of the multi-media approach within the various learning activities tends to enhance the content and to sustain interest and motivation.

... Write specific instructions for each learning activity so that the student can easily understand them.

... Try organizing and using an activity in each of the following areas:

a) use real objects that can be seen or manipulated.
b) view something (a film, filmstrip, slides, transparency, pictures).
c) visit a place.
d) use the teacher as the activity, (ask teacher questions, to demonstrate, lecture or to read).
e) have an activity where the student needs to verbalize, tell, discuss, help others, write, evaluate certain aspects of the activity, etc.
f) use some commercially prepared materials or media as an activity.

... The point is that your packet (or potential Instructions System) should be as informative, useful, motivating and interesting as you can make it. The complexity and the degree of depth and

breadth of your Learning Activity Packet should depend, of course, on your audience, performance objectives and your ability to organize.

... See page 32 for a list of suggested performance based learning activities.

... Just be creative.

"Novel Approaches to a Subject
are more important to a Project's
Success than Novel Subjects."
Thomas A. Billings

... Your LAP is your suggested plan for learning. It is placed into a student's hands through counseling or self-selection. The student then needs to be allowed to move through these learning experiences at his own pace, commensurate with his own ability, motivation and interest. When appropriate and diversified learning activities and tasks are made available to the student, he has the opportunity to assume more responsibility in selecting his own learning experiences.

... Another factor to remember when designing, developing and organizing your learning activities is that there will be students who should be allowed to select from your activities only those educational experiences that will be most relevant to their goals and objectives and will help them gain the understanding, meaning, knowledge and skills that are pertinent to their needs.

... This then implies that, as you organize the range of activities in and for your packet, you so structure your material that some choice can be made by the students who use your LAP so that all the students do not necessarily have to work all your activities. This approach can utilize some aspects and procedures that are related to the branching techniques that are practiced in programmed instruction, in order to provide for individual differences.

... As the students proceed through your series of learning activities you should employ techniques whereby they can gain insights as to their progress and assess the accuracy of their choices. Methods that help them progress "line upon line, precept upon precept, here a little and there a little" can also be similar to those used in programmed instruction whereby they gain immediate knowledge of actions or choices. This aspect then necessitates the use of Item 13.

Item 13

... Review Progress Checks -- or Self-test: (To be used where and when needed). During the process of writing your packet for

the student, you should:

a) Tell them what you are going to tell them.
b) Then tell them.
c) Then tell them what you have told them.

... These three aspects of repetition should be interspersed throughout your packet. By using the process of properly spaced repetition, more learning seems to take place than the single impact technique.

... Be discriminating and selective in its use, however. A well-placed "review" or "progress check" can be very effective inasmuch as it provides the student with needed self-assessment, feedback and evaluation so as to determine progress toward the performance objectives.

Item 14

... Post-test: Now that the student has finished working with and doing the learning activities in your packet, it is time to check to see just how effective you have been in presenting the information and content and to see if the student can demonstrate his ability to meet, accomplish or perform the objectives of your packet.

... The post-test is in reality the third instrument for evaluating and assessing the student's progress and achievement.

... If possible, the post-test should contain a different format or type of question than those used in the pre-test. A variety of test type questions should be used in both pre- and post-tests.

... Another aspect of the post-test should be an invitation to the student to evaluate and assess the effectiveness of the packet and then make constructive suggestions and recommendations that will provide the information needed for remodeling, updating or improving your packet.

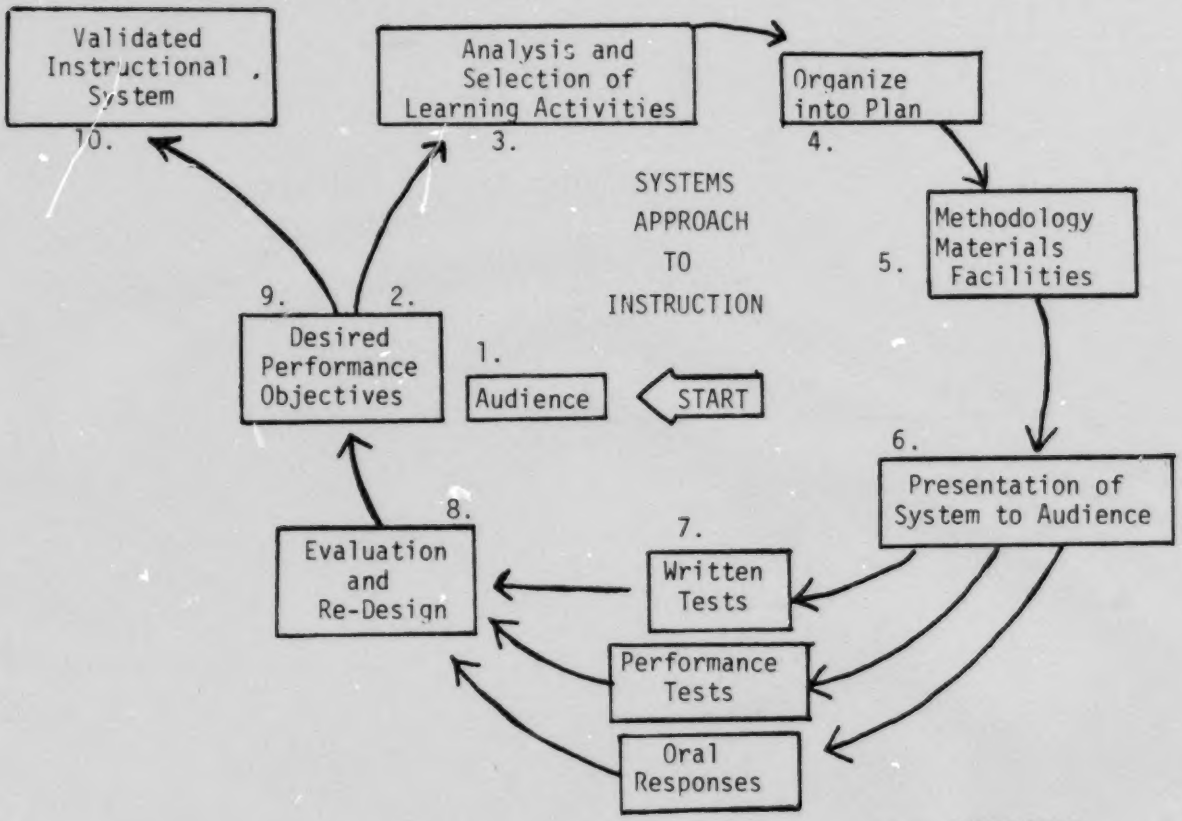
... In order to facilitate the evaluation of the LAP by the learner, you may want to design a short one-page evaluation sheet, using a value or opinion check list or ask questions and leave space for written opinions and suggestions Evaluations can be anonymous. (See the suggested LAP evaluation form on page 42.)

... In most cases, a well-organized Learning Activity Packet is initiated as a suggested systematic approach to learning some concept. However, through empirical and experimental research with your packet by the students who use the packet and by you,

the writer, you may find that changes, modifications and improvements should be worked into the LAP.

... Remember to indicate where the answers to your post-test are located. (Either with the instructor or in the appendix of your packet.)

... The following diagram illustrates one example of a cyclic pattern that can be utilized for this improvement or refinement process.



SCHEMATIC
by
T.K. Midgley

... Eventually, after proceeding through the cycle one or more times, some well-tested, revised and proven packets can become instructional systems if they show some aspect of reliability in meeting their specified performance objectives. There is a constant need for well-tested instructional systems.

Item 15

... Additional Suggested Follow-up Activities: This item is for those students who study your LAP and find your topic so interesting that they desire to pursue the area of study further.

... You should list other optional resources such as books, films or relevant topics and other Learning Activity Packets that are related to your content.

... Additional optional learning activities may also be listed which supplement your packet.

Item 16

... Bibliography and Resources Inventory: Books and non-book materials that have been mentioned in the packet or that are related to the packet as either primary or secondary references should be listed under Item 16.

... This will include books, articles, pamphlets, pictures, films, filmstrips, slides, tapes, transparencies, three dimensional items, etc.

Item 17

... Suggestions for the Teacher: These can include special instructions or guides if you feel they are needed. They can be in a separate folder from the student packet or included as a special section at the end of the LAP. They could be included within the Appendix.

... The answers to the pre-test, progress checks and post-test could also be included in Item 17.

Item 18

... Appendix: The appendix can include materials which enhance the packet and add to its effectiveness.

... Pamphlets, articles, reference materials, actual materials for use in the packet and learning activities can be included here.

... The answers to the pre-test, progress checks and post-checks can be located here if not included under Item 17.

... Validation: It is important that you test your packet in order to determine its effectiveness and to modify it if need be. Keep a record listing those who use it, the conditions under which it is used and the results. This short report should be located in the Appendix.

SPECIAL NOTE: It is suggested that you read through this complete booklet at least once before you start writing. Then as you commence writing, go back and re-read each of the eighteen items again.

GENERAL INSTRUCTIONS FOR WRITING YOUR LAP

Getting Started

... The eighteen items comprising this format for a Learning Activity Packet have been organized and presented here only as a suggested procedure to be followed. Some writers, depending upon their topic, needs and objectives, may desire to add elements to their packet while others may desire to delimit and use a more succinct format. The length of the LAP, the number of objectives and activities, are determined by the writer and the concepts to be taught; however, there are basic elements of the LAP that should be presented in order to have an effective self-instructional device. Creative ideas and approaches in writing and organizing the Learning Activity Packet and other methods of self-instruction and independent study are certainly encouraged.

... After you have chosen your title, try to list about a dozen statements which outline ideas that you feel the learners should eventually know about your topic or things that you want them to be able to do. When you have done this, you can start organizing your objectives, activities and test items and build upon these statements.

... Write down any problems you have as you start writing your LAP. This makes it easier to organize solutions. Both problems and solutions usually occur in the following areas:

... Situations
... Behaviors
... Consequences

... Read carefully this complete book (Part I and Part II) before you commence your writing.

... Have a friend read and evaluate your objectives, activities and test items.

... Test your LAP with several people, preferably the age level that your packet is designed for. This process can help you refine your LAP and improve it prior to the final typing.

Organizing the Finished Packet

... In most cases the LAP should be written on plain white bond paper; however, colored sheets can be used for special purposes or sections, or for special keying of activities or content.

... Carefully type your LAP. You may, however, use bold, readable hand lettering if and where needed.

... Leave one inch margins on top, sides and bottom of each page.

... Use erasable paper (8-1/2 x 11) and type on one side only.

... Be careful when erasing and making corrections.

... Use a good black carbon ribbon.

... Diagrams and drawings need to be made with a heavy soft lead pencil or black ink or black felt marker.

... There should be NO misspelled words.

... Neat typing is essential.

... Number all pages.

... Be consistent in format.

... Become familiar with some manual of style for writing of term papers.

SOME EXAMPLES OF PERFORMANCE OBJECTIVES TAKEN FROM VARIOUS LEARNING ACTIVITY PACKETS

The student will locate and name the nineteen national parks on a map of the Western States.

The student will define and put to use the following words in a short sentence: ecology, natural resources, canyon, rim, precipice, environment, conservation, glacier, chasm, erosion, panoramic, crater, pollute, explore, abyss, switchbacks, primitive and fossils.

The student will explain verbally to the teacher how four national parks were formed geologically.

The student will practice safety rules when going to and from school and then tell the teacher what he did.

The student will develop wholesome attitudes by being courteous to school bus and car drivers with whom he rides.

The student will demonstrate his ability to work puzzles and crossword puzzles by working the puzzles in this packet.

The student will use safety practices to and from school and then will make a list of at least five things he has done.

The student will be able to identifyand explain to the teacher the equipment used in skiing.

The student will be able to practice and then organize into a proper sequence the basic skiing maneuvers such as basic stance, walking, paddle turns, climbing, snowplow. He will then explain each maneuver.

The learner will be able to match each exercise with the specific terrain on which it should be taught and state reasons for his selections.

The student will demonstrate his knowledge of the Egyptian principles of repetition and addition by converting Hindu-Arabic numerals to Egyptian symbols.

When given a standard numeral (Hindu-Arabic) and an Egyptian symbol, the student will determine whether one is larger, smaller or equal to the other and write out his answer.

The student will become familiar with the parts of the microscope by identifying and labeling the parts on a diagram.

The student will demonstrate his knowledge concerning the microscope by describing verbally how the microscope is used.

The student will demonstrate his knowledge by obtaining a score of at least 90% accuracy on the parts and functions of the compound microscope.

The student will demonstrate his skill by preparing a slide by the method prescribed in the Learning Packet.

By the end of the quarter the student will be able to type at least 40 words per minute with 95% accuracy.

The student will be able to list the states in the United States by writing the names of the states on a blank map.

By the end of the semester the student will be able to write shorthand at the speed of 100 words per minute and transcribe with 98% accuracy.

The student will demonstrate his ability to type a good letter by using the correct form, punctuation, spelling and grammar.

The student will demonstrate his ability to set-up, operate, and rewind two (new) 16 mm film projectors using outlined projection techniques.

The student will demonstrate his ability to make an unbreakable film splice with splicing cement.

The student will demonstrate his ability to operate a reel to reel tape recorder (record and playback).

Using a patch cord and two tape recorders, the student will make a duplicate copy of a tape, eliminating all outside noises.

Using scissors and splicing tape, the student will splice on leader to an audio tape making a noiseless splice.

SOME EXAMPLES OF AFFECTIVE DOMAIN ATTITUDINAL OBJECTIVES

The student will show interest in the periodical index and abstracts and will indicate this by making a subject reference list for his own paper or thesis.

The student will increase his appreciation of communication techniques as measured by:

a) A Language Arts Questionnaire from the Eight Year Study.
b) Increased elective and selective use of communication materials.

The student will display an increased interest in communication skills as measured by:

a) Higher post-task ratings on the LEWY Reading Questionnaire.
b) An informal speech activities inventory.
c) A check list of entries in student logs.

At the end of my period of influence over the student, he will demonstrate that he enjoys listening to the compositions of Bach by checking out tapes from the listening lab without being asked to do so.

The student will utilize a new approach (excluding Columbus and the Vikings) to the question of Who Discovered America.

The student will transfer to fellow students the importance of a multi-idea approach to the origin of the so-called "primitive" Americans.

The student will participate in a debate on the topic of Who Discovered America.

At the end of my period of influence over the student, he will demonstrate that he respects other opinions and ideas by listening attentively to opposing ideas expressed by other classmates.

> Attentive listening is sitting quietly, listening, not speaking until ideas have been expressed, watching the speaker and then asking questions related to material or expressing opinions.

By the end of the class the student will understand what colors she should wear in order to look her best. She will demonstrate this by the color of the clothes she selects and wears through her own choice.

The student will show concern for other students by helping them with some learning activity without having been told to do so by the teacher.

The student will indicate appreciation and interest in the content of the packet by sharing the information and techniques with other students without being encouraged or told to do so by the instructor.

The following are a few areas in which observations can be made that indicate that learning is or has taken place in the affective domain (attitudes, feelings, emotions, opinions):

Attention: observing students' awareness, their willingness to receive information, controlled or selected attention.

Application: observing students as to how they use or apply what has been presented to them. Application involves using facts and principles in new situations.

Evaluating: observing students as to their showing a preference for, or setting a value judgment on, some concept, idea or thing (the process of organizing internal individual value systems). Preference may be shown by expressing oral or written opinions.

Responding: observing students as to their willingness to respond and in their showing satisfaction in responding.

Synthesizing: observing students as they put together previously learned material and experience and/or pose questions in order to formulate a new pattern or product of thought.

The following are other areas or observable activities that are indicative of the affective or attitudinal domain of learning.

ACCEPTS
ADOPTS
ADVOCATES
ARGUES (A POSITION)
ASKS
ATTEMPTS
CHALLENGES
CHOOSES
CONSULTS
CRITICIZES
DEFENDS
DESIGNS
DISPUTES
EVALUATES
GATHERS (INFORMATION)
INVESTIGATES
JOINS
OBEYS
OBJECTS (TO AN IDEA)
ORGANIZES
PARTICIPATES
PERSEVERES
PERSISTS
PRAISES
PROMOTES
PROPOSES
QUALIFIES
QUESTIONS
RECOMMENDS
REJECTS
SEEKS
SELECTS
SHARES
SLEEPS
SPECIFIES
SUBMITS
SUBSCRIBES
SUGGESTS
SUPPORTS
TESTS
TRIES
VISITS
VOLUNTEERS FOR
WEIGHS (JUDGES)
YAWNS

"ONE STEP AT A TIME you can walk over the HIGHEST MOUNTAINS." John Wanamaker

Contract FOR LEARNING

BETWEEN THE Student ~ AND THE Teacher

I will fulfill all required readings and activities and I will respect and care for materials and take turns using them.

I will do my own work as much as possible and to the best of my ability.

I will finish this packet by the date we set during our (student/teacher) planning conference.

I, the undersigned, being of a sound mind and body and having read the preceding contract and having understood it to the best of my knowledge; do hereby agree to abide by the terms stated.

Signed and witnessed this day, _____ month, _____ in the year 19___.

Student Signature: _____

Teacher Signature: _____

Grade Level: _____; Subject: _____

School: _____

Pupil Conferences: 1. _____ 2. _____ 3. _____ 4. _____

Progress Reports: 1/3 2/3 Finished

Evaluation:	Excellent	Very Good	Good
Student:	_____	_____	_____
Teacher:	_____	_____	_____

The following is another suggested format for a Student-Teacher Contract as well as a Progress Report form. This could be printed on 5" x 8" cards so that they can be kept in a file box by the teacher on her desk. The student could also keep a copy.

This type of contract - Progress Report provides a very effective technique for keeping a record of the work a student has finished or the work a student has in progress.

Another way this form could be used is to print the information on 8-1/2" x 11" paper as the example shows, then cut the paper in half, the top half for the teacher's record and the bottom half for the student.

Teacher - File Copy

STUDENT - TEACHER CONTRACT

I, the undersigned student, agree to do the work in the following Learning Activity Packet:_____. I will do the activities to the best of my ability and try to complete it by:_____.

I will be responsible for arranging a conference when directed to do so by the packet or when I feel I need one. I will also take care of recording any information needed on this contract.

Signed: Student_____

Teacher_____

* * * * * * * * * * * PROGRESS REPORT * * * * * * * * * * *

Pre-Test: Score:_____Fair_____Good_____Very Good_____Excellent_____

Action: Review_____Continue_____

Progress Check: Score:_____Fair_____Good_____Very Good_____Excellent_____

Action: Review_____Continue_____

(Continued on back)

Student Copy

STUDENT - TEACHER CONTRACT

I, the undersigned student, agree to do the work in the following Learning Activity Packet:_____. I will do the activities to the best of my ability and try to complete it by:_____.

I will be responsible for arranging a conference when directed to do so by the packet or when I feel I need one. I will also take care of recording any information needed on this contract.

Signed: Student_____

Teacher_____

* * * * * * * * * * * PROGRESS REPORT * * * * * * * * * * *

Pre-Test: Score:_____Fair_____Good_____Very Good_____Excellent_____

Action: Review_____Continue_____

Progress Check: Score:_____Fair_____Good_____Very Good_____Excellent_____

Action: Review_____Continue_____

(Continued on back) 31

Progress Check: Score:_____Fair_____Good_____Very Good_____Excellent_____

Action: Review_____Continue_____

Post Test: Score:_____Fair_____Good_____Very Good_____Excellent_____

Action: Go on to next Packet_____Review_____

CONFERENCES: (Teacher - Student)

Date:_____Section finished_____Go on_____Review_____

Date:_____Section finished_____Go on_____Review_____

Date:_____Section finished_____Go on_____Review_____

Date:_____Section finished_____Go on_____Review_____

Date:_____Section finished_____Go on_____Review_____

Date:_____Section finished_____Go on_____Review_____

COMMENTS:

_____

_____

_____

Progress Check: Score:_____Fair_____Good_____Very Good_____Excellent_____

Action: Review_____Continue_____

Post Test: Score:_____Fair_____Good_____Very Good_____Excellent_____

Action: Go on to next Packet_____Review_____

CONFERENCES: (Teacher - Student)

Date:_____Section finished_____Go on_____Review_____

Date:_____Section finished_____Go on_____Review_____

Date:_____Section finished_____Go on_____Review_____

Date:_____Section finished_____Go on_____Review_____

Date:_____Section finished_____Go on_____Review_____

Date:_____Section finished_____Go on_____Review_____

COMMENTS:

_____

_____

_____

A LIST OF SUGGESTED LEARNING ACTIVITIES

Interviewing authority and listening or talking to resource person

Experiencing (seeing, hearing, touching, tasting, smelling, thinking)

Watching filmstrips, slides, 8 mm films, 16 mm films, people, demonstrations to watch, video tape recorder

Hearing tapes, records, other people, T.V.

Reading books, articles, papers, magazines, bulletins, etc.

Constructing films, tapes, photo essays, slide presentations, magazines, models, mock-ups, puzzles, posters, murals, exhibits, dioramas

Drawing up plans for their construction

Responding on paper (poetry, essay, short story, etc.), tape, film, etc.

Debating and discussing

Exploring through field trips, experimentation, invention, hikes (encourage to go alone)

Making, handling and using models

Imitating

Practicing a skill or teaching to others

Playing games: spelling, reading, math, language, physical

Participating in dramatic experiences: writing, reading and participating in plays; giving talks; making and working with puppets; making cartoons; participating in charades, role-playing, pantomimes

Explaining/demonstrating to others the use of apparatus (teaching machines, overhead projector, transparencies, flashcards, Language Master and cards, quizzes for others, graphs, charts, illustrations, maps or diagrams of information)

Using verbal symbols: word, idea, concept, principle, etc.

Dancing and singing or other musical ideas

Using readerboards

Constructing collage and montage

Working in a group on a common project

Doing general research projects and reports (secondary and original sources, case studies, etc.)

Using micro-forms

Reviewing

Interpreting -- analysis through artistic/scholarly projects (interpreting a book through a painting, drawing, etc.)

Drawing/diagramming

Writing articles for school paper

Comparing ideas, objects, etc.

Shopping for particular items

Adding to or starting a hobby

Correcting mistakes

Following instructions

Drawing/painting/collecting pictures

Following through and drawing conclusions

Embroidering particular designs or pictures

Cooking/eating foods typical of particular culture

Writing pertinent letters

Memorizing short poems/sayings

Participating in club activities such as Sunday School, 4-H, Scouts, etc.

Working (for payment) at particular jobs

Analyzing history of subject with resume

Helping others to do work or working for their benefit as doing some chores

Taking a survey

Searching

Lifting

Holding

Observing in room or on playground

Writing your ideas down

Asking questions

Matching two lists (e.g. words with pictures)

Assigning

Investigating

Choosing

Reading

Organizing (game, materials, class, group)

Putting in order as to sequence (pictures, lists, words)

Pointing out or identifying (physically, written or orally) pictures, photographs things

Discovering

Listing details

Dividing into groups

Playing

Practicing inquiry technique

Practicing interaction analysis technique

Practicing precision teaching technique

Answering questions

Setting up

Sharing

Compiling data

Diagnosing

Listing needs as you see them

Listing alternatives

Making a check list

OTHER SELF-INSTRUCTIONAL TECHNIQUES

Related to the Learning Activity Packet is a family of other locally produced self-instructional methods and tools and techniques that are currently being tried and tested.

1) The Step-by-Step Self-Help Card
2) The Study Station Package
3) The Comprehensive Production Thesis
4) Self-Instructional Listening Tapes
5) Self-Instructional sound/slide sets
6) Self-Instructional programs using Language Master cards
7) Self-Instructional programmed learning (linear or branching)
8) Self-Instructional programs or information using Sound Page Cards

These related tools for self-instruction are discussed in detail below.

THE STEP-BY-STEP SELF-HELP CARD

We have designed one format for use in our production of teaching materials lab which guides the student in the making process. (See diagram below).

Outlined below are directions for organizing a Step-by-Step Self-Help Card when making something.

DEFINITION: A Step-by Step Self Help Card is a technique for self-instruction. It is used in order to present a systematic description of a process or a procedure. These directions tell, and illustrate, how to MAKE something.

PERFORMANCE OBJECTIVE: These directions should assist you in the process of writing and organizing Step-by-Step Self-Help Cards.

INTRODUCTION: Read completely through all these instructions, carefully, at least once, before you start this project.

Study the following two diagrams that illustrate the suggested format for the writing and organizing of a Step-by-Step Self-Help Card for the production of teaching materials.

STEP-BY-STEP PROCEDURES: Adhere to the following Steps:

These eleven (11) ITEMS should be found on your finished card. Capitalize and underline as indicated.

Item 1 DEFINITION:
Item 2 PERFORMANCE OBJECTIVE:
Item 3 STEP-BY-STEP PROCEDURES:
Item 4 MATERIALS NEEDED:
Item 5 HELPFUL HINTS:
Item 6 (Topic of card and the words Side One on tab of card)
Item 7 (Topic of card and the words Side Two on tab of card)
Item 8 (Mounted Sample)
Item 9 SOURCES AND COSTS OF MATERIALS:
Item 10 EVALUATION PROCEDURES:
Item 11 (Identification Label)

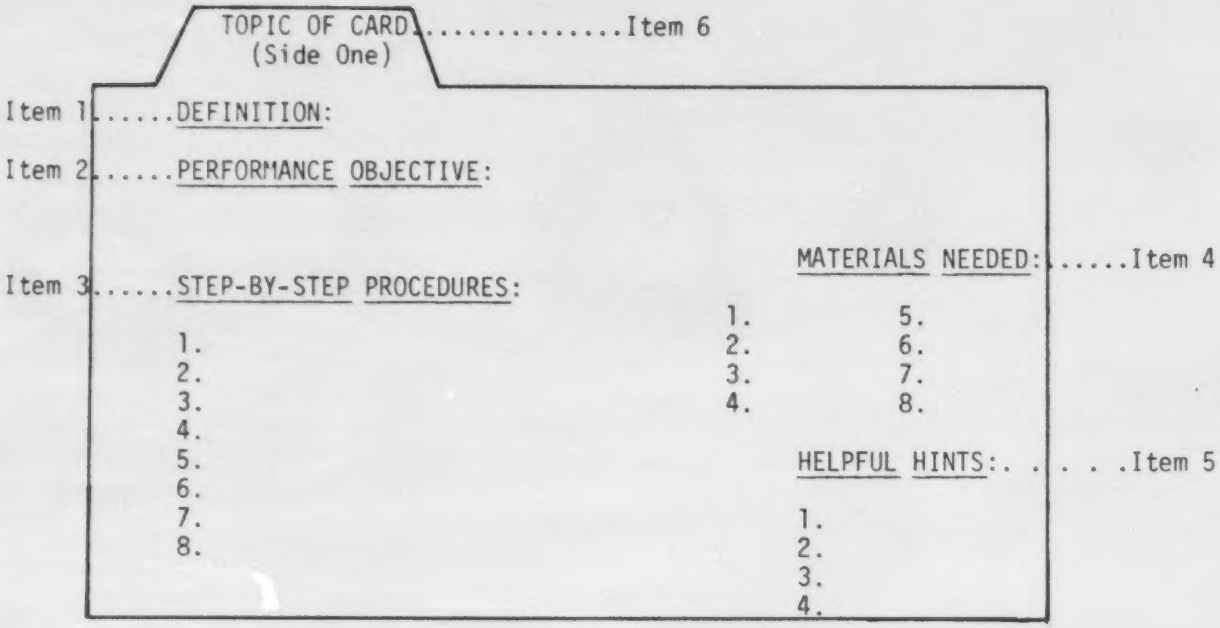
Finishing Step: Both sides of the card should be covered with clear contact plastic for added protection. (EXCEPT THE MOUNTED SAMPLE)

Under Item 3, STEP-BY-STEP PROCEDURES, all cards should have for step number one, the following statement:

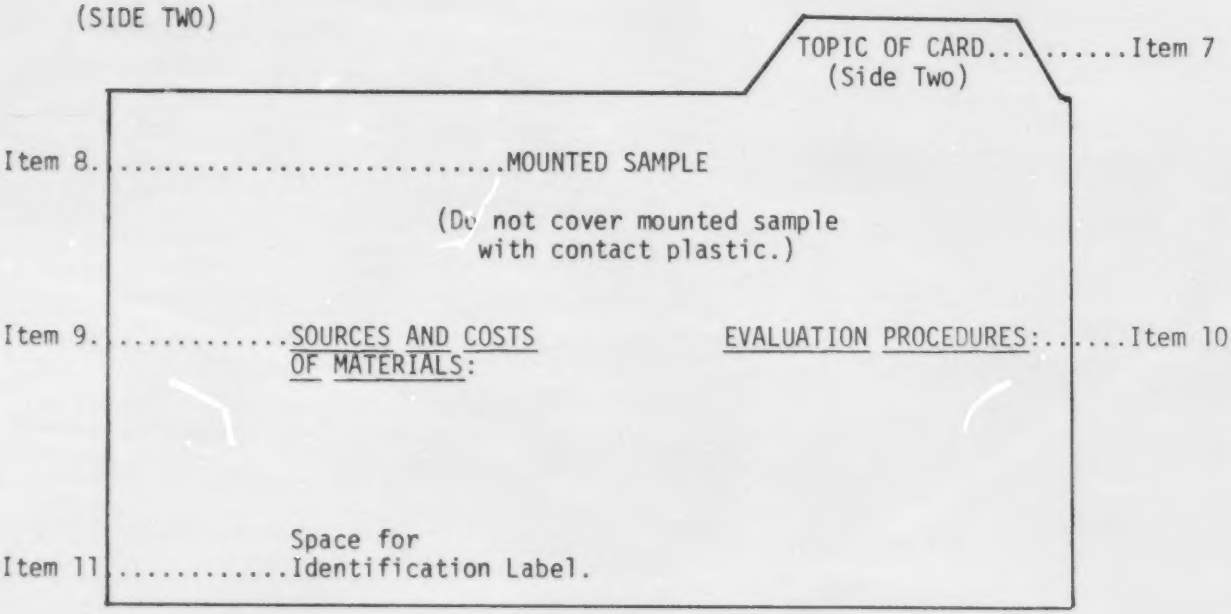
"Read completely through all these instructions, carefully, at least once, before you start with this project."

(NOTE: These sketches of the cards are miniatures of the actual 9" x 12" cards).

(SIDE ONE)



(SIDE TWO)



(Follow the FINISHING STEP directions using contact plastic.)

We have another format that we use in the audio-visual equipment lab which guides the student in the using process. (See diagram below)

NOTICE! This is a miniature of the 9" x 12" card that should be used.

(SIDE ONE)

TOPIC OF CARD
(Side One)

PERFORMANCE OBJECTIVE(S):

MATERIALS NEEDED:

1, 2, 3, 4, 5

STEP-BY-STEP OPERATING PROCEDURES WITH ILLUSTRATIONS:

HELPFUL HINTS:

1. PHOTO-GRAPHS 1.

2. 2.

3. 3.

4. 4.

5. 5.

6. 6.

(SIDE TWO)

TOPIC OF CARD
(Side Two)

(cont.) STEP-BY-STEP OPERATING PROCEDURES WITH ILLUSTRATIONS:

HELPFUL HINTS:

7. 7.

8. 8.

9. 9.

SOURCES AND COST
NATIONAL DISTRIBUTOR:
LOCAL DISTRIBUTOR:

SIMPLE MAINTENANCE:

1.

2.

3.

These cards are usually stored in a file box in the classroom so the students can have easy access to them. In some cases a single step-by-step self-help card is placed in a holder or envelope attached to a piece of equipment or in a study carrel.

THE STUDY STATION PACKAGE

Study station packages are attached to projection carts or study carrels where the student may use the contents as he works with AV equipment or learns a process or technique.

The following list itemizes the contents of a study station package:

1) A labeled holder for the materials
2) A Learning Activity Packet
3) A Step-by-Step Self-Help Card
4) Language Master cards
5) Transparencies
6) An instructional cassette tape
7) Question and Answer cards

THE COMPREHENSIVE PRODUCTION THESIS

At Eastern Washington State College each graduate working toward the Master's Degree in Instructional Communications (Audio-visual Media, Technology and Learning Resources) completes a production thesis that is designed for individualized instruction. Each production thesis is concerned with a special emphasis. For example; "Closed Circuit Television," "8 mm Photography," "35 mm Photography," "Designing Listening Stations," "Motion Projection Techniques," "Still Projection Equipment," "The Learning Resource Center," "The Living Library," are some titles of production theses.

These are excellent resources for self-instruction and in-depth study for any student interested in the topics discussed, but especially for the graduates in the area of Instructional Communications.

Other valuable techniques for self-instruction include:

Self-Instructional Listening Tapes for both reel to reel and cassette tape recorders.

Self-Instructional sound/slide sets using locally produced 35 mm slides with narration.

Self-Instructional programs using a series of illustrated Language Master cards. (The Language Master is a recording technique for short taped messages a few seconds in length.)

Self-Instructional programmed learning in both linear and branching formats.

Self-Instructional programs and information using a series of illustrated Sound Page Cards. (The Sound Page is a recording technique for taped messages up to four minutes in length.)

The above are simple but very effective techniques of self-instruction that can be adapted to any subject area and any grade level. There is no monopoly on creativity and originality, for every teacher has some unique ability wherein he can design and develop original methods of driving home some instructional message.

One of the great strengths of self-instructional programs and systems is that learning activities can be organized into small segments and steps, and thus the learner can experience success more often and can progress at a rate commensurate with his individual interest and ability.

Learning can be a lot like eating. Learning is more effective and beneficial when it is personally selected and partaken of in small unhurried sips than when a menu is thrust upon us with commands to partake in hurried gulps.

A DEFINITION OF SELF-INSTRUCTION

Self-instruction does not always mean independent study; whereas independent or individual study, in most cases, does mean working alone. We are defining self-instruction to mean anything the learner can select to do, in order to learn, at a time or place of his choosing. In many cases the learner may be by himself, but this is not the chief criterion for self-instruction. Sometimes he will be, or can be with others, but the entry and exit time remains a choice of the learner.

Self-instructional strategies include methods, techniques, procedures, materials, processes and other things a learner can select to do on his own in order to learn.

A LIST OF SOME SELF-INSTRUCTIONAL STRATEGIES

... Learning Activity Packet (standard size)
... Learning Activity Packette (a micro LAP)
... Learning Activity Packet/package (comprehensive with supplementary materials)
... Study Station
... Step-by-Step Self-Help Cards
... Reference Packet
... Self-Study Listening Tapes
... Programmed Instructional Materials
... Instructional Displays
... Charts and Flow Charts
... Photographic Essay
... Language Master Cards
... Question and Answer Cards
... Sound/Slide Sets
... Auto-tutorial Labs and Systems
... Films, Filmstrips
... Listening to or watching people
... Computer Assisted Instruction
... Realia (the real thing)
... Study Trips
... Museums
... Libraries
... Books, Booklets, Magazines
... Displays (cabinets, shelves)
... Display and Presentation Boards
... Three dimensional materials (Models, Mock-ups, Dioramas, Relief Maps, etc.)
... Flat Visual Presentation of a step-by-step process (on Wall or Pin Board)
... Interviewing others
... Radio
... Television
... Newspaper
... Constructing something
... Attending a lecture, discussion, demonstration, buzz group, dramatic presentation, symphony, theater, fair or special show.
... Dial-Retrieval Systems for Recorded Lectures, 16 mm Films, Television, Video-tapes
... Individual tutoring or coaching upon request
... A self-quiz, test, progress check or working with any evaluation instrument as long as choice of use remains with learner
... Designing, organizing and writing a Learning Activity Packet for self-instruction is in itself an important self-instruction experience. The learner learns about learning and the factors of flow, continuity, order and sequence, as he systematizes the content of a learning taks.

SUGGESTED LEARNING ACTIVITY PACKET EVALUATION FORM

Instructions: Please complete this questionnaire by checking the appropriate answer and by adding any comments you desire.

1. What is the title of the packet you are evaluating?_____

_____

2. Are the Performance Objectives reasonable and clear? Yes_____No_____

Comment_____

3. Are the Learning Activities and Instructions adequate and clear? Yes___

No___Comment_____

_____

4. Are the Test Questions understandable and clear? Yes_____No_____

Comment_____

_____

5. How long did you take to complete the LAP? 2 hours_____4 hours_____

1 day_____2 days_____4 days_____1 week_____Comment_____

_____

_____

6. Did you find the LAP interesting? Yes_____No_____Comment_____

_____

7. Do you like the LAP method of learning? Yes_____No_____

Comment_____

_____

8. What did you like best about this LAP?

_____

_____

_____

9. What did you like least about this LAP?

Comment_____

_____

10. How could this LAP be improved?

Comment_____

_____

11. How would you rate this LAP? Poor____Fair____Good____Excellent_____

Outstanding_____

12. Did you work entirely alone on the packet or did you work with others?

Work alone_____With one other person_____With two persons_____

With three or more_____

13. Any other comments?_____

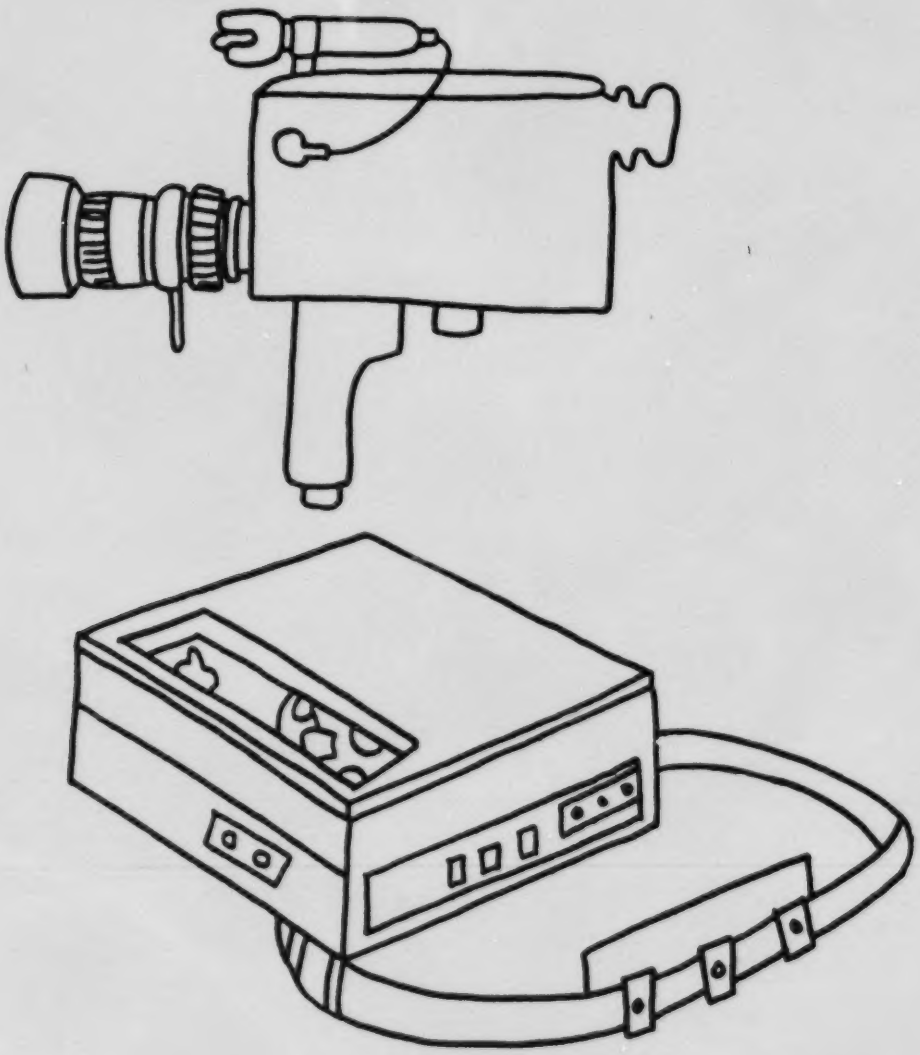
_____

_____

_____

(Thank you . . . Please give this evaluation to your instructor.)

Welcome To The World of Video Taping



WELCOME TO THE WORLD

OF VIDEO TAPING

. . . . .

Written by:

Dulcy Owen

Spokane, Washington
Summer, 1970

. . . . .

In Collaboration With

. . . . .

Dr. Thomas Keith Midgley

Production Consultant
Eastern Washington State College
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Center for Instructional Communications
Cheney, Washington 99004

TABLE OF CONTENTS

INTENDED AUDIENCE . . . . . PAGE 1

STATEMENT OF PURPOSE . . . . . PAGE 1

INTRODUCTION . . . . . PAGE 2

OBJECTIVES . . . . . PAGE 3

MATERIALS NEEDED FOR THIS STUDY . . . . . PAGE 4

HOW TELEVISION WORKS . . . . . PAGE 5-8

ADVANTAGES OF TELEVISION . . . . . PAGE 9

SONY PORTABLE VIDEOCORDER KIT DVK - 2400 . . . . . PAGE 10-11

SONY VIDEO CAMERA KIT VCK - 2400 . . . . . .PAGE 12

TAPE THREADING . . . . . .PAGE 13

VIDEOCORDER OPERATION . . . . . PAGE 14-20

CONNECTING CABLE . . . . . .PAGE 14

RECORDING . . . . . PAGE 15-17

REWIND . . . . . PAGE 18-19

ERASURE . . . . . .PAGE 20

VIDEO CAMERA OPERATION . . . . . PAGE 21-26

LENS OPENINGS . . . . . PAGE 21-22

HOW TO FOCUS . . . . . .PAGE 22

HOW TO USE THE ZOOM LENS . . . . . .PAGE 23

MONITORING . . . . . .PAGE 23

RECORDING WITHOUT SOUND . . . . . .PAGE 24

SPECIAL FEATURES . . . . . PAGE 24-26

REVIEW . . . . . PAGE 27-29

INTENDED AUDIENCE

Television has long been a household word. The public is slowly realizing that it is also becoming a regular programed feature in classroom teaching. The growing availability of television equipment and closed circuit systems make it practical for students as well as teachers to know how to film action for playback on all levels of instruction. Portable video cameras, recorders and monitors have been simplified to the point where students from the upper elementary grades to adults can achieve satisfactory results with little practice and no prior experience.

STATEMENT OF PURPOSE

No medium is used and accepted more commonly and yet is less understood than the process of televising. To the general public, television is surrounded by a magical shroud that somehow produces pictures from anywhere, in or out of the world, and sets them on the surface of their living room screens. This manual hopes to eliminate the mystery of video taping and replace it with an understanding, appreciation and a feeling of confidence in handling the process. The final goal of this and all other types of instruction is application. Some ways of using video taping are suggested. Others are left to your creative and inventive thinking. In the end, your methods of using television to fit your educational needs will determine the true value of video taping.

INTRODUCTION

Don't knock timidly. Open the door and take determined steps into the world of video taping. The process is a major part of the twentieth century and yet is an application of one of man's oldest sensory tools - the eye.

This packet will present a simplified explanation of image reproduction by the eye and the video eye. It will proceed to show you how to operate portable video taping equipment. Detailed inspection of the Sony portable camera and recorder are used in this text. The unique characteristics and advantages of television are presented next. It is hoped that these uses will stimulate your own thinking and help you to decide how television can best be applied to your learning needs.

OBJECTIVES

1. To be able to explain briefly the televising process.
2. To be able to identify the principal parts of the video camera and videocorder.
3. To be able to use both pieces of equipment effectively.
4. To be able to suggest situations in the classroom and community for students to tape and use which will contribute to their learning experiences.
5. To be able to select pre-televised programs which are felt to contribute to an educational need.
6. To be able to instruct others in the use of this equipment.

MATERIALS NEEDED FOR THIS STUDY

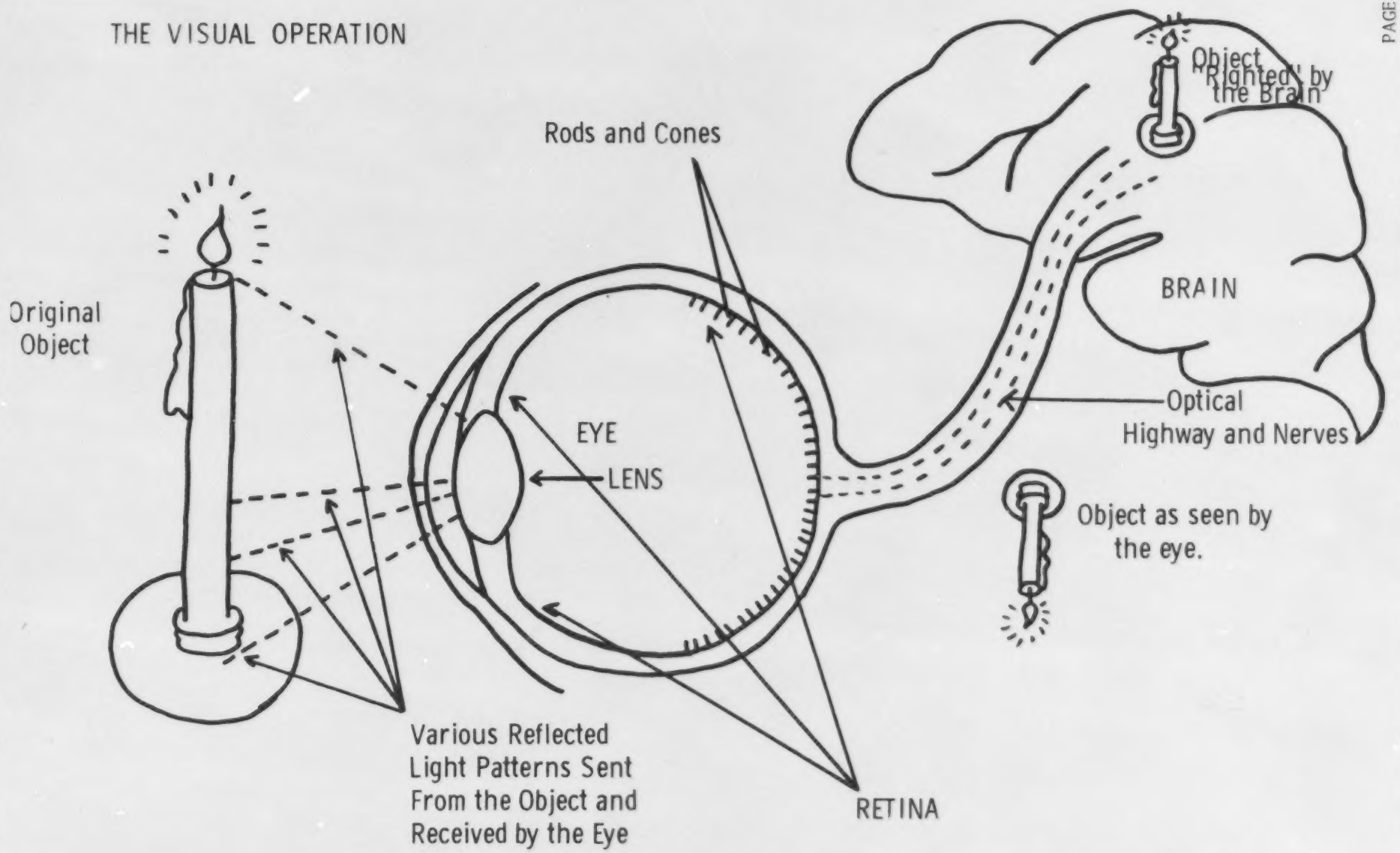
1. The Sony VCK 2400 Video Camera.
2. The Sony Videocorder Kit DVK 2400.
3. An unused reel of magnetic video tape.
4. An empty take up reel.
5. A stand or table for assembling and supporting your equipment.
6. A microphone that attaches to the top of the Sony Video Camera.
7. A cable (10 hole) to connect camera to Videocorder.
8. An object, preferably in motion, or a friend to televise.

HOW TELEVISION WORKS

Television involves the process of changing the reflected light patterns coming from an object into electrical patterns. These electrical patterns are then sent through space via waves and picked up by antennae. Once these electrical patterns enter your television equipment, the pattern reverses itself and the electrical pattern is transformed into the original reflected light pattern. Finally, it is converted to the actual scene on the surface of your picture tube.

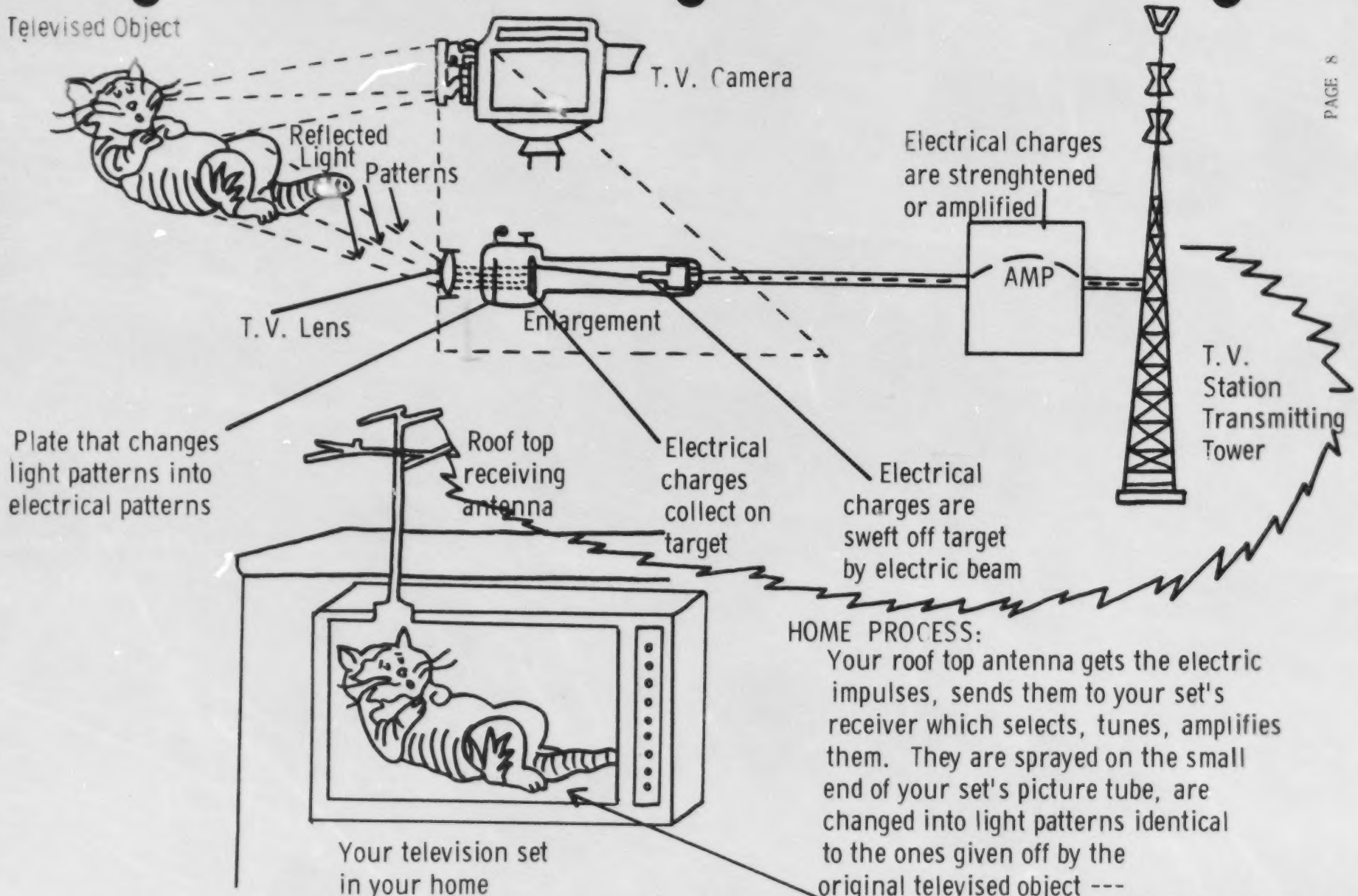
This conversion parallels the action of your eye. When you look at an object, you are actually seeing a pattern of reflected light that is sent forth in various strengths. These light waves are received by the lens of your eyeball which brings them into focus on the retina. At this stage, the object actually appears upside down. The optic nerves or visual highways send the image to the brain where the object is "righted". Now you are actually seeing and reacting to what you see.

THE VISUAL OPERATION



The television camera is just as sensitive to the light patterns reflected by the object as is the eye. It records them, along with the sound waves and turns these thousands of light readings into electrical impulses of equal strength. A plate in the camera accomplishes this job and then sends these changed patterns to a target. The target collects and stores them, waiting for the electrical beam to sweep them off. These electrical patterns are swept off in the exact order as they come. The changes of pattern occur so rapidly that our eyes see the action as a smooth and continuous process. Actually, thirty complete image patterns appear on the camera plate each second.

The rest of the story is illustrated on the following page. The electrical patterns are sent through space, received by your set's indoor or outdoor antenna and then changed back into equal strength light images on your screen. Your eye picks these up and you "see" the original televised object. Consequently, your television set merely reverses the action accomplished by the television cameras.


Televised Object
T.V. Camera
Reflected Light Patterns
Electrical charges are strenghtened or amplified
AMP
T.V. Lens
Enlargement
T.V. Station Transmitting Tower
Plate that changes light patterns into electrical patterns
Roof top receiving antenna
Electrical charges collect on target
Electrical charges are sweft off target by electric beam
Your television set in your home

HOME PROCESS:

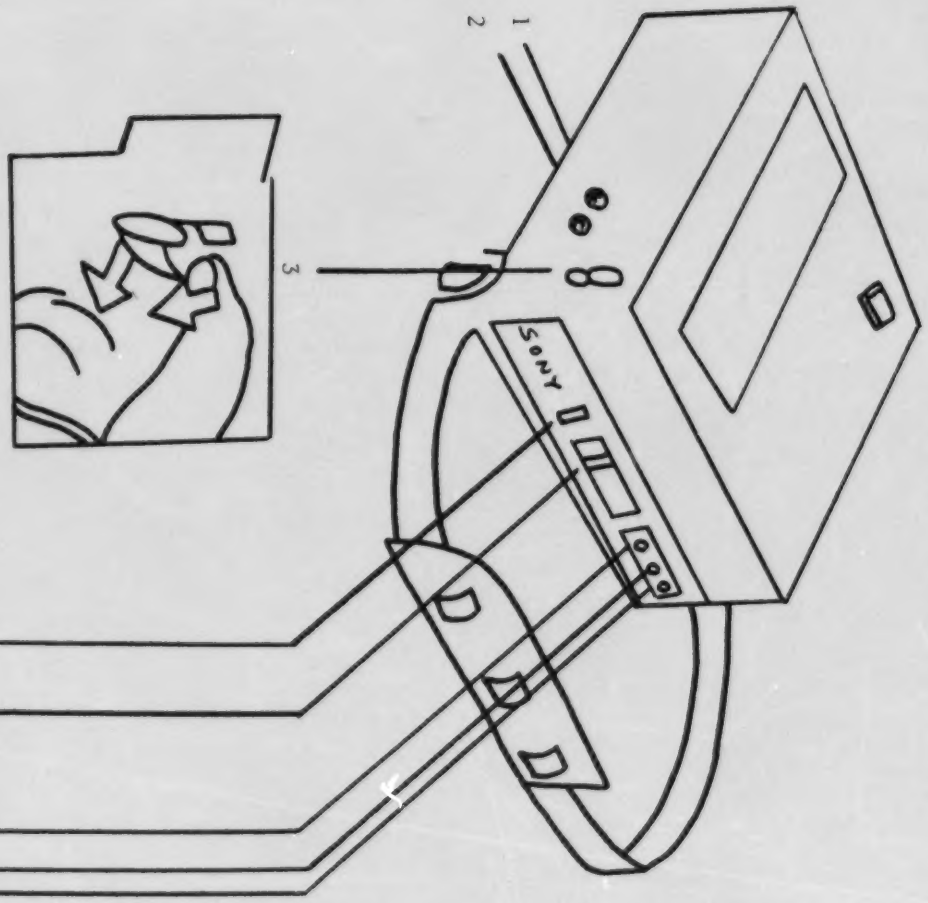
Your roof top antenna gets the electric impulses, sends them to your set's receiver which selects, tunes, amplifies them. They are sprayed on the small end of your set's picture tube, are changed into light patterns identical to the ones given off by the original televised object --- THUS, YOUR SCREEN'S PICTURE

ADVANTAGE OF TELEVISION

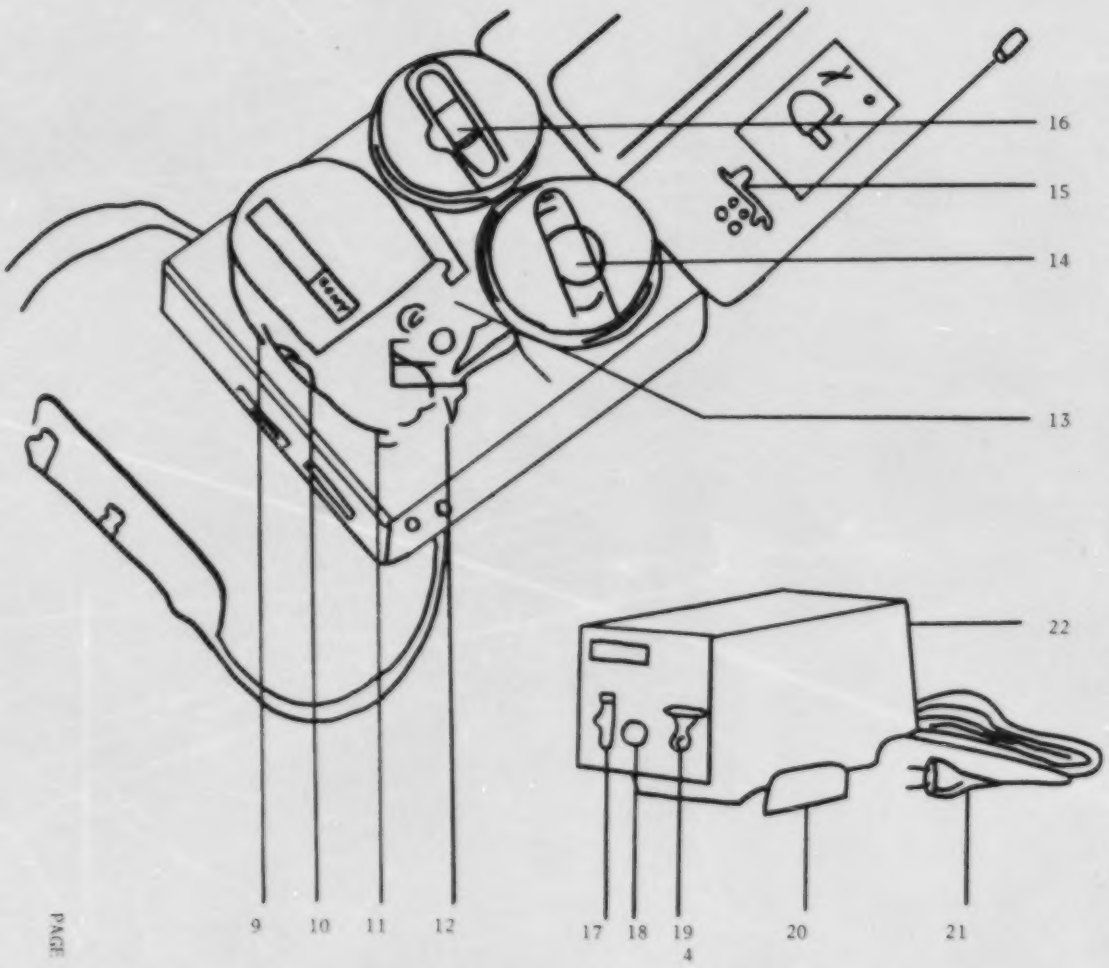
1. Television can bring an endless variety of subjects to the classroom at a relatively low cost.
   a. Videotape like any other magnetic tape may be used for repeated showings or be erased and ready for new situations.
   b. Tapes produced by industry and school districts can be easily exchanged and transmitted through the mail.
2. Demonstrations done with the video cameras insure that large groups can watch every detail as if they were sitting in the front row.
3. Important portions of a course or subject can be videotaped, stored and watched again by students who wish to review the instruction.
4. Taping classroom activities and instantly replaying them make student and teacher evaluation more dynamic and thorough.
5. Teachers interested in bettering their teaching techniques can pre-record their lessons and view them with the possibility for improvements in mind.
6. The process in videotaping an event is much less complicated and expensive than other types of filming. Another important advantage of this process is that much less time elapses before the event is being viewed in the classroom.

PORTABLE VIDEOCORDER DV-2400

1. EXTERNAL POWER CONNECTOR
To connect the optional AC Power Adaptor, Model AC-2400. The Videocorder can be operated directly from the household power line when the AC-2400 has been connected.
2. CAMERA CONNECTOR
To connect the SONY Video Camera DVC-2400.
3. COVER LOCK
Open the lock as illustrated.
4. BATTERY INDICATOR
The pointer shows battery condition when the Videocorder is operating (Function Lever in the STANDBY position).
White zone reading...shows good battery condition.
Red zone reading...shows that batteries need to be recharged.
5. FUNCTION LEVER
STANDBY position...To turn on the Videocorder and the camera connected to the Videocorder.
STOP position...To turn off the Videocorder and the camera.
6. START BUTTON...To start recording, push button.
7. MICROPHONE JACK...To connect a low impedance microphone.
8. EARPHONE JACK...To monitor the audio signal (sound) during the recording operation, connect the earphone (supplied) to this jack.
9. ROTARY VIDEO HEAD...Records video signals.
10. AUDIO CONTROL HEAD...Records audio and servo control signals.



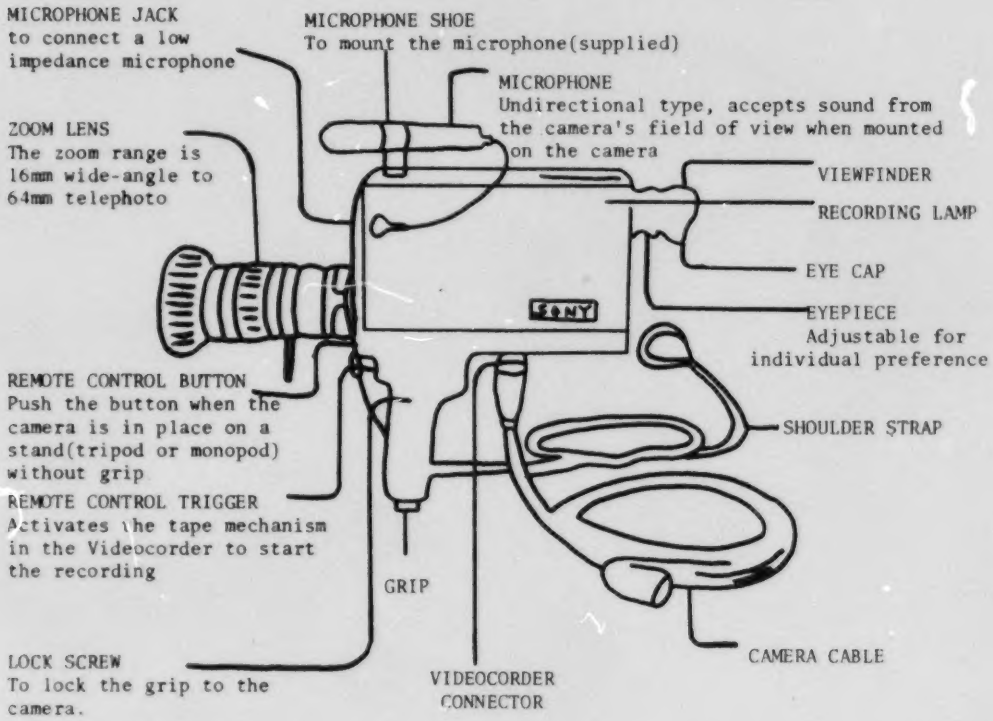
SONY VIDEOCORDER KIT DVK 2400

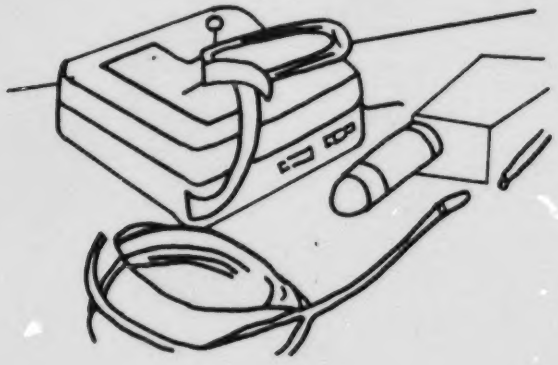


11. PINCH ROLLERS AND CAPSTAN
Apply driving motion to the tape.
12. AUTOMATIC SHUT-OFF SWITCH
At the end of the tape, this switch acts and sets off the picture on the viewfinder of the camera.
13. ERASE HEAD
Previous recordings are erased as the tape passes over this head.
14. TAKE-UP REEL SPINDLE
Place an empty reel on this spindle.
15. WINDING HANDLE
To wind tape remaining on the supply reel.
16. SUPPLY REEL SPINDLE
Place a full reel on this spindle

BATTERY CHARGER BC-2400
17. POWER ON OFF SWITCH
To turn on the charger, press the upper portion of the switch.
18. POWER LAMP
Lights when the charger is turned on.
19. CHARGING METER
The pointer shows charging condition.
While charging is proceeding, the pointer stays in the black zone.
When the batteries are recovered the pointer goes back in red zone
20. CHARGING CONNECTORS
Contact with the terminals of the batteries.
21. AC POWER CORD
Insert to an AC outlet (117V, 60Hz).
Protects the charger from overload.

LOCATION OF PARTS AND CONTROLS
SONY VIDEO CAMERA KIT VCK 2400


MICROPHONE JACK
to connect a low impedance microphone
MICROPHONE SHOE
To mount the microphone(supplied)
MICROPHONE
Undirectional type, accepts sound from the camera's field of view when mounted on the camera
ZOOM LENS
The zoom range is 16mm wide-angle to 64mm telephoto
VIEWFINDER
RECORDING LAMP
EYE CAP
SONY
EYEPIECE
Adjustable for individual preference
REMOTE CONTROL BUTTON
Push the button when the camera is in place on a stand(tripod or monopod) without grip
SHOULDER STRAP
REMOTE CONTROL TRIGGER
Activates the tape mechanism in the Videocorder to start the recording
GRIP
CAMERA CABLE
LOCK SCREW
To lock the grip to the camera.
VIDEOCORDER CONNECTOR



TAPE THREADING

1. Place a full reel on the Supply Reel Spindle and an empty reel on the Take Up Reel Spindle. Be sure that each reel is firmly engaged.

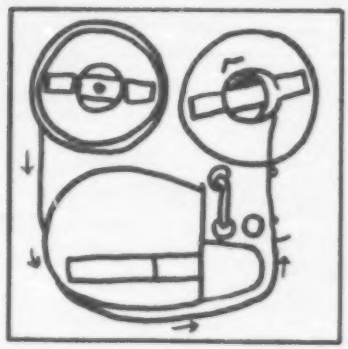
2. Unwind about 2 feet of tape and thread it to the Take Up Reel by passing around the outer tape path, inside the automatic shut-off switch and between the Pinch Roller and the Capstan as shown. (1)

3. Wind the tape around the Take Up Reel three or four times.

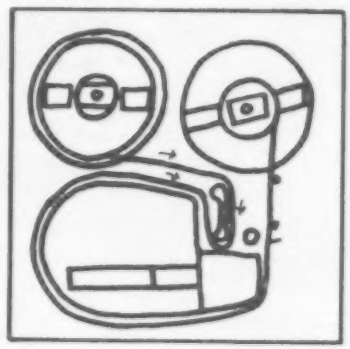
4. Turn the Supply Reel counterclockwise to make some slack in the tape.

5. Form a loop in the slack tape and drop it into the tape path around the tape guide, the Pinch Rollers and the erase head as shown. (2)

6. Turn the Take Up Reel by hand to take up any excess slack in the tape path.



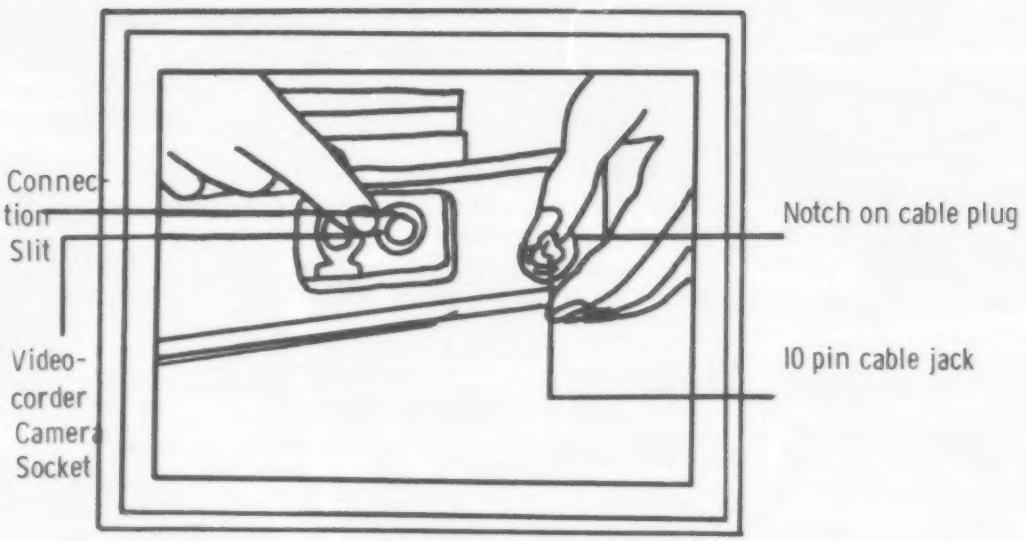
1.



2.

SONY VIDEOCORDER KIT DVK 2400

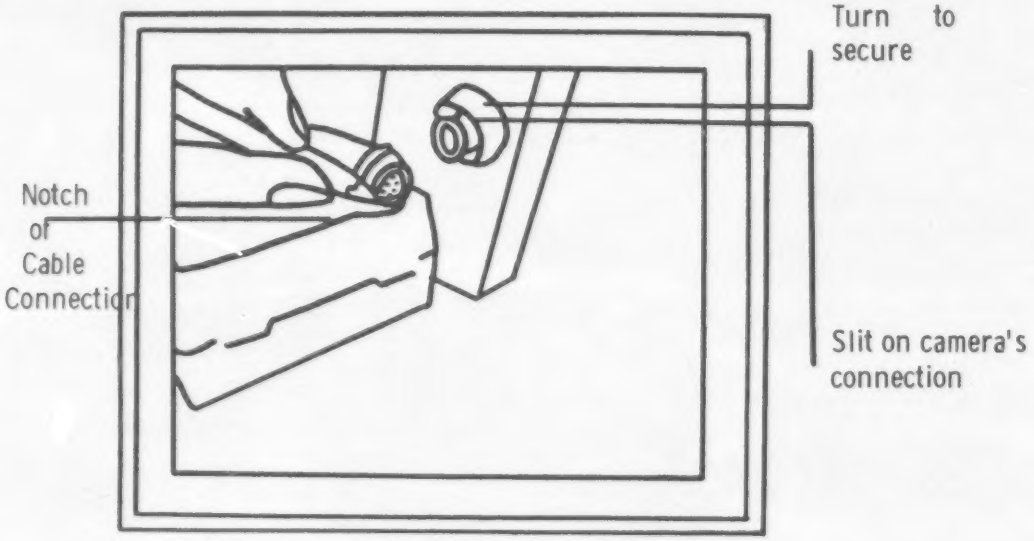
1. Take the cable found with the camera. Hold the end that has 10 protruding prongs. Then look on the side of the Videocorder. You will find a socket marked camera.



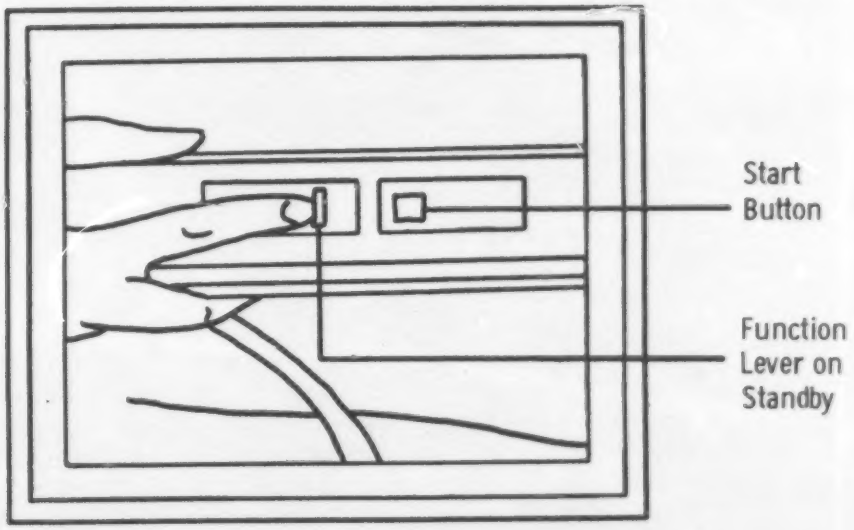
2. If you look carefully at the connection you are holding, you will notice notch that must be matched with a corresponding slit

in the Videocorder's camera's socket. Once these are matched, push the cable jack in and secure by turning the plug clockwise (↷) until it turns no further.

2. Take the other end of the cable, match the notch of this connection with the slit on the camera's connection. Push the cable jack in and then secure by turning the lip counterclockwise (↶).

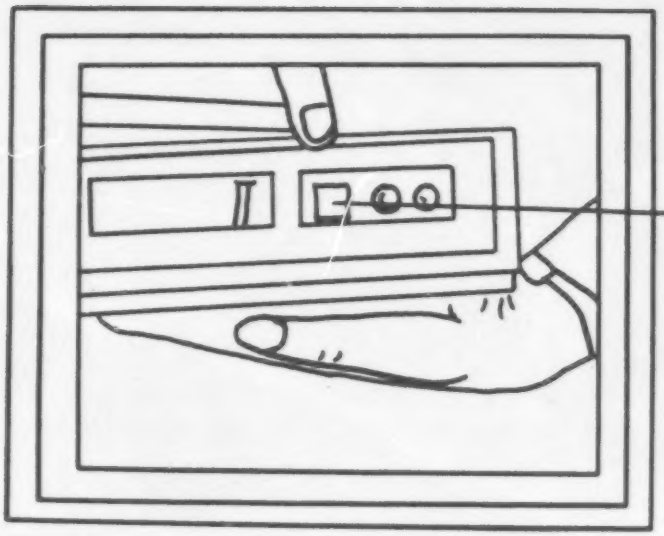


3. Set the Videocorder's function lever to its Standby position. Now the Videocorder and camera are on but in a Pre-taping position.



4. Remove the Lens Cap if it is on, and aim the camera at the area to be photographed. Adjust the lens and focus ring (explained further in next section) until you are satisfied with the image you see in the viewfinder.

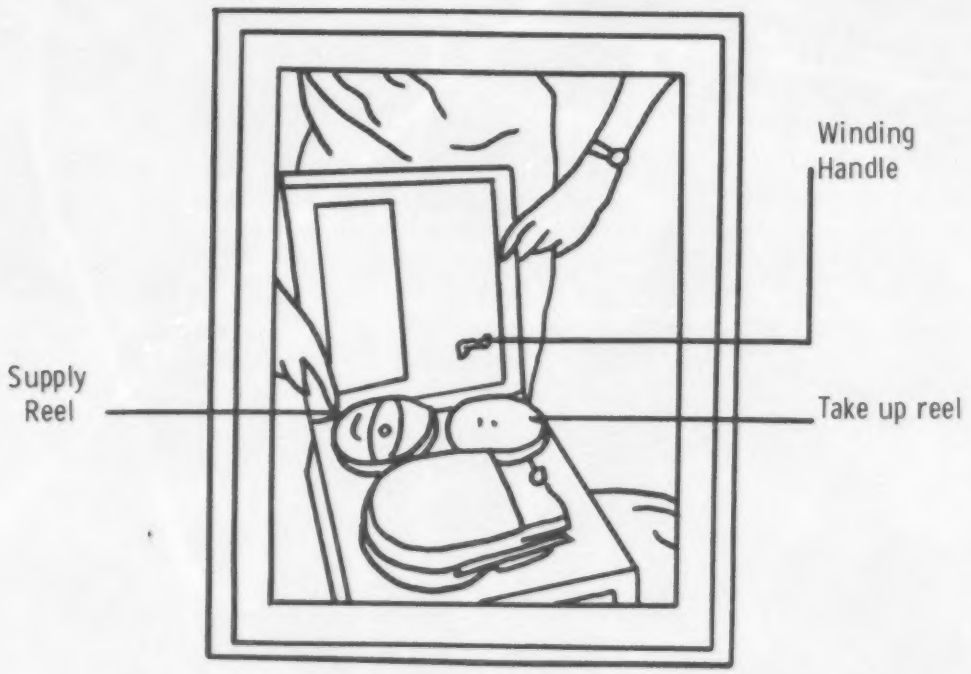
5. Once this is accomplished, you are ready to record. Recording begins when you push in the Red Start button of the Videocorder. You can also start the recording process by squeezing the trigger of the camera's handle. Please refer to Special Features for detailed discussion.



6. In order to stop recording, do either of 2 things. You can release the trigger on the camera's handle, or you can push the Red Start button of the Videocorder again. This will cause it to pop up and cease recording. Having done this, the equipment is back in the Standby or pre-recording condition and can be activated instantly by repeating Step 5.

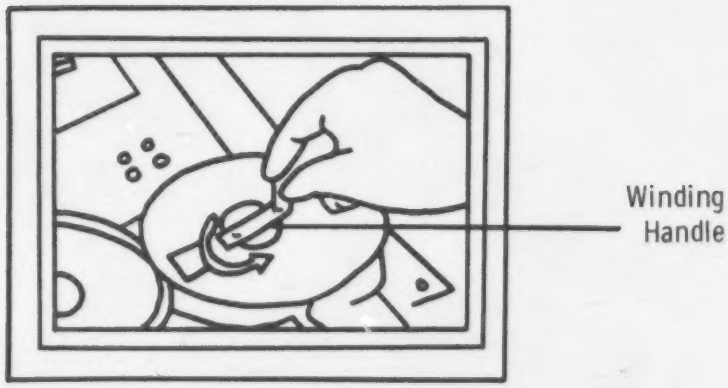
7. When you have finished recording entirely, position the function lever in the stop zone. Then remove the full reel of tape from the take up reel.

8. In order to view your tape in its proper sequence, you will have to rewind it. You do this by putting the full tape reel on the supply reel spindle. Place an empty reel (5" at least) on the take up spindle.



Thread the tape through the machine as shown under the first 3 steps described in Tape Threading. Disconnect the cable from the camera and Videocorder. Put machine in Standby and move the tape by pushing the Start button.

Or you can do this manually be using the winding handle. Remove it from the Videocorder's case lid. Position your supply and take up reels correctly. Do not thread through machine but lead beginning of tape directly to the empty spindle. Wrap it around several times. Then engage the winding handle with the take up reel by inserting the pin of the handle into the slot of the reel hub. Wind up the tape by turning the handle counterclockwise (↶).



9. To erase a used tape merely follow the steps listed for recording. Erasure is caused automatically by the tape passing by the erase and recording heads.

OPERATION OF THE SONY VCK 2400
VIDEO CAMERA

1. Make the proper cable connections as explained under the Videocorder section.

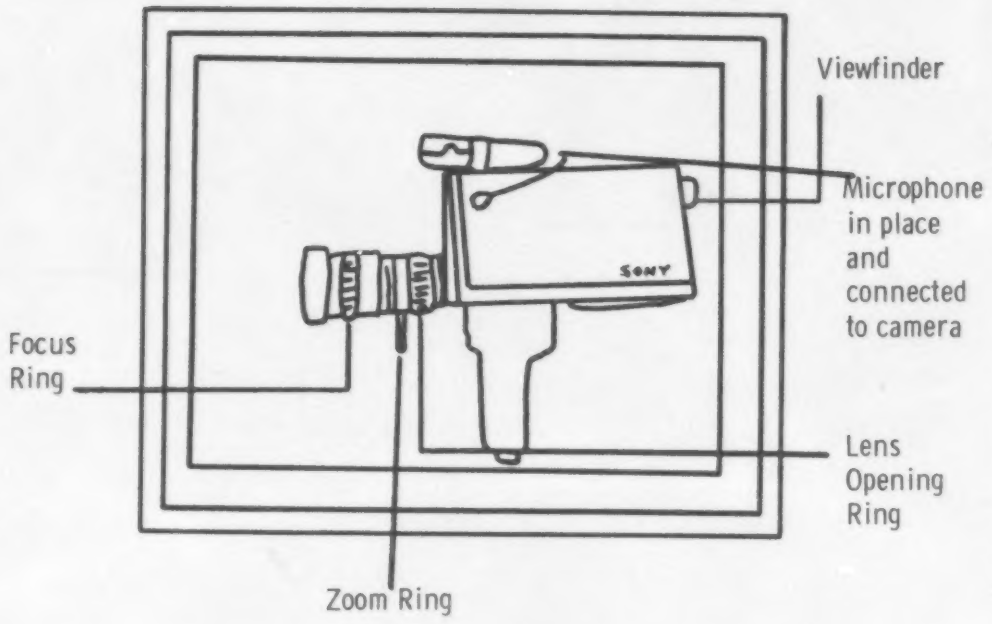
2. Set the function lever of the Videocorder on the Standby position. This turns on the Videocorder and the camera.

3. Remove the lens cap if there is one, and life the camera to eye level. Point the camera at the subject to be filmed and then adjust the lens opening and focus ring while looking through the viewfinder. If you have just turned on the camera, allow 20 seconds for pictures to appear through the viewfinder.

   A. The Sony camera has an automatic electric sensitivity control system that allows picture filming over a wide range of indoor and outdoor lighting conditions. A general lens setting for normal indoor artificial lighting is F2. For cloudy or shady outdoor shots, set the lens opening ring at the 4 through 5.6 range.

Bright outdoor shots need a lens opening of 8 through 11. In most cases, a lens setting of F2 will be effective.

B. To focus the picture correctly, measure in number of feet the approximate distance between the camera lens and the subject to be photographed. Turn the focus ring to this measurement.



Look through the Viewfinder to continue the focusing process and adjusting the Focus Ring to get the precise effect.

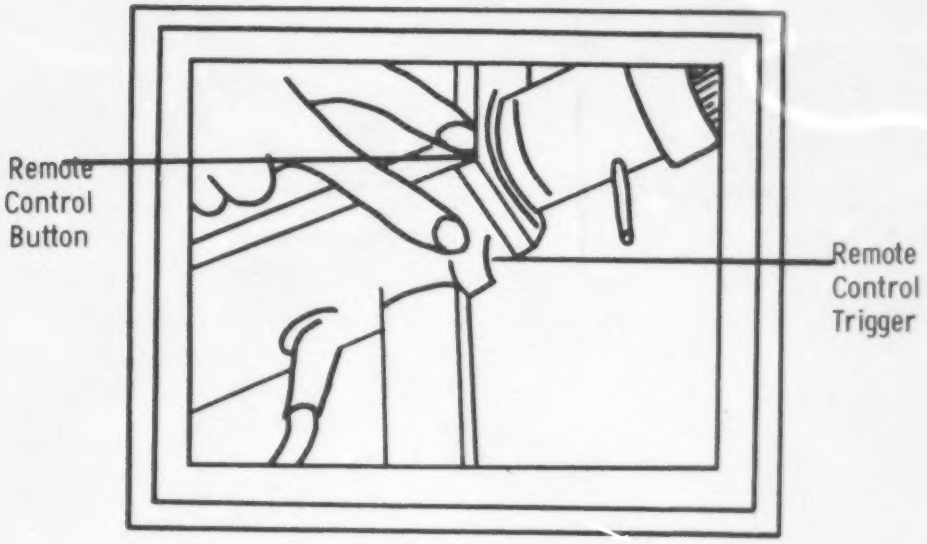
C. If you wish to close or more distant picture of the subject, use the Zoom Ring. This lens opens the stage area of the camera from 16 mm wide angle to a 64 mm telephoto angle. Start by positioning the zoom lever for a wide angle shot, then move the ring gradually to the 64 mm close up position.

4. After you have a clear, sharp picture, start recording by pressing the start button on the Videocorder. You can tell that the camera is on by watching for the recording lamp to light up. If you are taping sound during the filming operation, you can monitor or listen to what is being recorded by putting on the earphone and plugging it into the socket marked ear on the Videocorder.

5. To record without sound, simply disconnect the microphone.

SPECIAL FEATURES

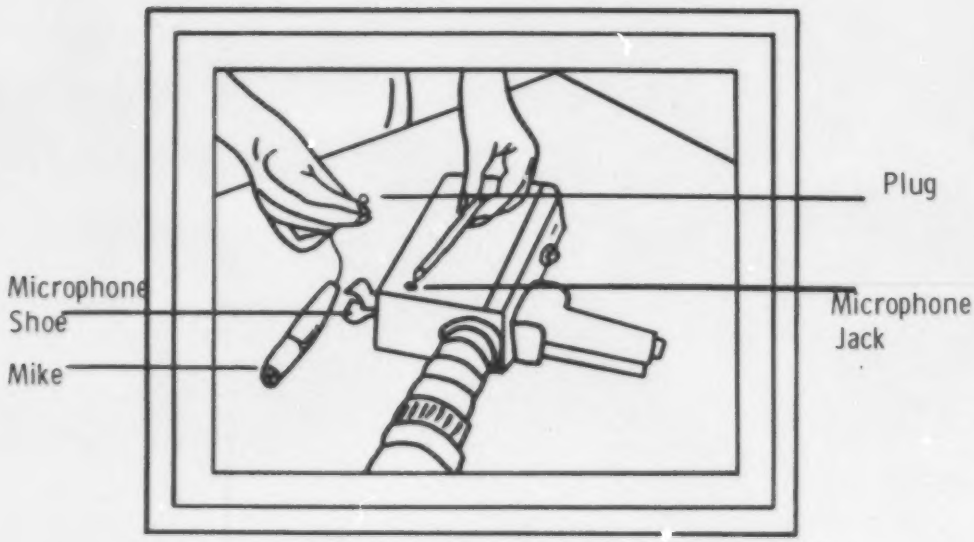
1. Filming can be controlled by the camera operator by squeezing the remote control trigger on the camera handle. In order to do this, the function lever of the Videocorder has to be in the Standby position. The tape operates when you press the trigger.



If the camera is mounted on a monopod or tripod stand, you control the tape movement by pressing the Remote Control Button.

2. The Viewfinder defines exactly what will be taped and later seen on the video screen. During the pre-taping stage, when the function lever is positioned on Standby, the picture appears through the view. Finder and lens settings and focus adjustments are made. Do not start the tape until you are perfectly satisfied with the picture you see through the viewfinder.

3. The microphone is plugged into the camera and snapped into the microphone shoe when sound is desired.



This system works best by picking up sound from one area directly in front of it. A microphone extension cord allows the mike to function independently of the camera.

4. Mounting on the stand is recommended for filming done in one fixed position. The monopod or tripod will insure a steady, stable picture. Mounting the camera is done by fastening the mounting screw of the stand to the mounting slot of the camera's grip.

REVIEW

Complete the following statements.

1. The Standby condition of the videocorder is described as being _____.
2. The _____ end of the cable is plugged into the videocorder's camera jack.
3. The _____ of the socket and the _____ of the plug must be matched before you combine them.
4. Visual recording can be controlled _____ ways. You can film by _____ and _____.
5. You must _____ your tape before viewing it.
6. Erasure of a used tape is accomplished by _____.
7. The lens opening adjusts for the amount of _____ in the filming area. An effective setting for general use is _____.
8. Focusing is adjusted first by _____ and then completed by looking through the _____.

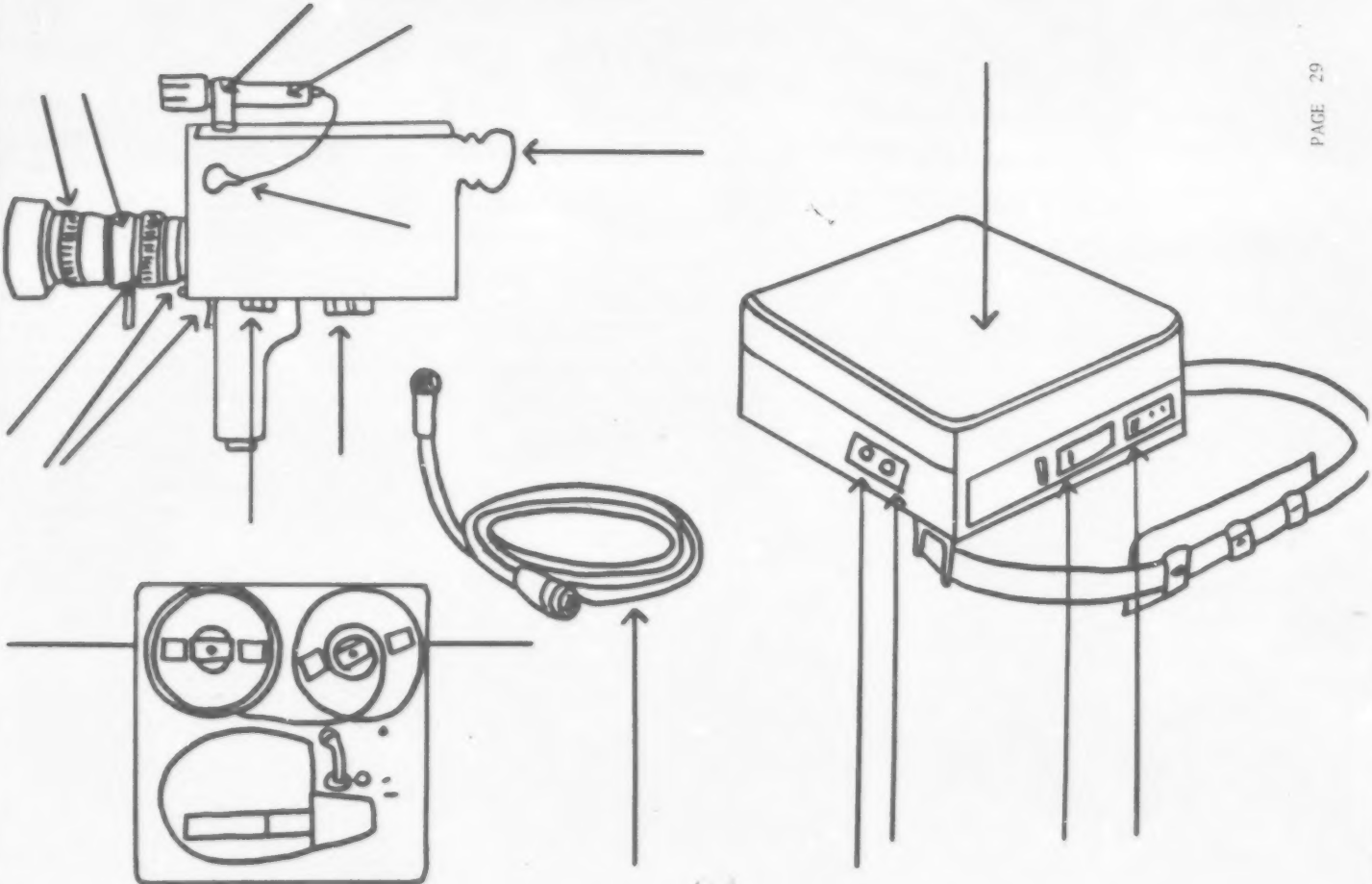
ACTIVITIES

1. Identify the names of the parts of the videocorder and camera indicated on the following page.
2. Tape any classroom activity to get the "feel" of the equipment.

View it on a monitor and evaluate your results. Check the picture's focus, lighting, movement of camera to catch action and total effect.

3. Choose a topic and grade level. Write or organize a detailed explanation of your concept or process. Limit its length to three or five minutes. Mount the camera on a stand, make all the necessary adjustments for video taping, push the remote control button and then step in front of the camera and present your micro lesson. View it and evaluate not only the filming technique but the clearness and effectiveness of your lesson.

4. Erase your tape.



CONGRATULATIONS,
YOU ARE NOW A
VIDEO TAPER !!

PART II

L E A R N I N G

A B O U T

L E A R N I N G

LEARNING: BY GULPS OR SIPS

Someone has said that:

> "A learner is not a vessel to be filled but rather a lamp to be lighted."

In the past, most teachers of all ages have found it easier, however, to proceed with the teaching task by concentrating more on pouring and filling, (the cognitive-information function) rather than attempting to inspire to light the flame of inquiry within learners or work with attitudes and feelings (the affective domain function).

Changes are imminent, however, for professional journals in many areas, including Education, Business and Industry are currently reflecting an interest concerning the increased use of self-instructional techniques, methods and strategies. Instructors are realizing that individual differences, varied interests, motivations and needs, and an ever increasing array of performance objectives are variables that can best be met by providing a type of smorgasbord approach to learning. This does not imply that learning does not have any structure or boundaries, but rather that the choice within a learning area should have a variety of approaches that will provide the learner with alternatives as to content, depth and breadth and a variety of learning experiences and activities that can better meet individual needs.

The Learning Activity Packet is one of the most effective techniques that is being used in order to provide a variety of experiences within the self-instructional environment. The following material is presented in order to outline and show the contribution of Self-Instructional Programs.

The two column format that follows has been used here in order to facilitate the comparison of the traditional and the Self-Instructional Teaching/Learning Programs but not for the purpose of implying that the self-instructional techniques are always good and the traditional methods are always bad, for it is realized that good and poor strategies can be practiced in both environments.

Traditional Programs have tended to utilize GULPS

(Group Universal Learning Programs and Systems)

More Teacher Oriented:

... What the "Teacher" is to do with the teaching/learning task.

Factors That Are Mostly Constant:

... Instruction
... Assignments
... Number of Students
... Teaching Space
... Time

A Factor That Varies:

... Achievement

Motivation:

... Basically Extrinsic
... The program uses reward or punishment.
... Learner works for grades or degree or accomplishment set by program or teacher.

Curriculum:

... Usually group oriented.
... Program determined to a great extent by administration.

Self-Instructional Programs tend to utilize SIPS

(Self-Instructional Programs and Systems)

More Learner Oriented:

... What the "Learner" is to do with the teaching/learning task.

Factors That Need to Vary:

... Instruction
... Assignments
... Number of Students
... Teaching Space
... Time

A Factor That Is Highly Constant:

... Achievement

Motivation:

... Basically Intrinsic
... The program should emphasize reward.
... Learner works for achievement, satisfaction and self-accomplishment in reaching personal objectives.

Curriculum:

... Primarily individual oriented.
... Program selected by participants
... Many related texts and resources concerning concept area are made available.

... Usually based on Text Books.
... Sometimes other related activities are used, but they are usually selected by the teacher.
... Limits choices and alternatives to the learner.
... Content usually structured within an instructional area.
... Centers on knowledge and skills and possibly some attitudes and feelings.

Teacher's Role:

... Dispense information
... Assess learner.
... Use teaching oriented objectives.
... Work actively in the cognitive and psycho-motor domains.

Learner's Role:

... Listen, memorize and repeat back.
... Apply occasionally.
... Meet standards set by teacher or the program.

... Many related Learning Activities from which the learner is allowed to choose those that are personally relevant.
... Promotes increased self-initiative, free enterprise and free agency by providing unlimited choice and selection.
... Few restrictions as to content or breadth or depth of study.
... Centers on attitudes and feelings and then builds to skills and knowledge.

Teacher's Role:

...Perform the threefold nature of teaching.
1. Pre-assess.
2. Provide learning activities.
3. Evaluate.
... Organize resources.
... Innovate and create.
... Be a living resource.
... Guide, direct and counsel.
... Provide individual help through individual conferences.
... Give more time to functions in the affective domain of learning.

Learner's Role:

... Assume more responsibility in the learning process of obtaining information, skills and attitudes.
... Select concept and curriculum areas based more on interest and perceived need.
... Become involved in application of learning by doing; participate in multi-media Learnig Activities*, primarily on an individual basis.
... Obtain individual help and assistance when needed by seeking and asking.
... Make self-assessment of progress.
... Use learning oriented Performance Objectives.
... Continue until the desired level of competency is reached.

Learning Activities include Reading, Listening, Viewing, Doing, Recording, Tutoring, Self-Instruction Techniques, Programmed Instruction, Auto-Tutorial Systems, Large and Small Group Interaction in sharing, Seminars, Lectures, Demonstrations, Presentations, Micro-Teaching, Videotaping, Learning Activity Packets, using Audio-Visual Equipment, Simulation, Learning Games, Role Playing, Study Trips, Resource People, Lab Work in designing, creating and organizing, Experimenting, Testing, Evaluating, etc.

Philosophy:

... The GULP process has been most often used. (Group Universal Learning Programs)
... Goals, objectives and purposes are usually set by the program.
... The End Results seem to be more important than means.
... The learner often blames the established program for personal failures.
... Resentment is often fostered in the learner because of the inflexibility in rigid programs.
... The learner usually exerts only the energy or creativity that is needed in order to fulfill required accomplishments.
... In some learners this type of program often promotes feelings of self-inadequacy or a poor self-image and the result is often limited growth.

Philosophy:

... The SIP process should be the basic Learning Method. (Self-Instructional Programs)
... Goals, objectives and purposes are selected by individual learner.
... The Means in reaching the end results are more important than the end result.
... The learner assumes more responsibility for personal failures and usually tries again.
... This method tends to promote more contentment and acceptability in the learner in working for and supporting the program.
... The learner who has personally chosen a program usually exerts increased energy, creativity and dedication in accomplishing learning tasks.
... These programs should foster the feelings of continued and unlimited opportunity for individual growth and development, and should promote a positive self-image and the idea of personal worth.

THE SOCRATIC METHOD OF TEACHING

The Socratic Method of teaching is a process of promoting learning by asking questions. Learning requires an active mind and the teacher's decisions can often play an important part in determining the kind of thinking and activities done by the student. Important in this respect are the questions a teacher decides to ask. Asking the right type of question can promote excellent learning activities. The type of question predetermines to a great extent the type of activity that will follow.

Do the questions call for:

... comparison and contrast?
... the sorting out of relationships?
... the assessing of consequences?
... imagination?
... or do they require only memory?

What responses does the teacher permit his students to make?

Do the learners dare exercise logic?

Do the students dare challenge an alleged truth?

When we ask questions, both the student and the teacher can and do learn.

A higher level of learning is achieved by answering questions and by questioning answers.

The following questions are examples of the kind that can promote creative thinking and learning activities in the effective domain:

How does what happens in the state of Washington affect the rest of the Nation?

How do the lives of people differ from each other on the different sides of the mountains in the state of Washington?

Is it possible that Mt. Rainier will erupt again?

Where do the names of the places in our state come from?

How many ways do the people of Washington earn a living?

In Washington, is the wild-life east of the mountains the same as it is on the west? Why or why not?

How would things be different if Washington was an interior state?

What role does Washington play in the world as a whole?

What kind of future can Spokane County expect?

Are there other places in the world that have a climate like the state of Washington? If so, where?

Why is one place better to fish than another?

Would a geographer be a better fisherman than someone else?

What is a drainage area?

What causes floods? What can be done about them?

Why aren't all rivers alike? How do they vary?

Why are some mountains rugged and others well-rounded?

What is the difference between a hill and a mountain?

What is a flood plain?

What causes a glacier?

How does a glacier shape the land?

How do volcanos create new land?

How does temperature shape the land?

What are faults?

Why do some people choose to live where floods happen?

Why don't oranges grow in Washington state?

What makes it rain?

What does the weatherman mean when he talks about a cold front?

How does the ocean affect climate?

How does climate determine what a place can grow?

How would things be different if the sun circled the Earth?

How many ways does the sun affect our lives?

Why are the seasons reversed in the Southern Hemisphere?

Is the Earth really round?

What are the differences between a place located on the sea coast and a place located far inland even though they are on the same latitude?

Why does it rain so much in certain parts of Washington?

What would happen if the seas dried up?

How can I best locate a place on a world map?

Why are some maps distorted?

What way is up?

Can you map space?

Would a grid system work on the moon?

When and where does today start?

What time is it now some place else?

Why is winter cold and summer hot?

Are the seasons the same all over the world at the same time?

What makes mountains?

What causes earthquakes?

What rivers are best suited to dam consttruction?

What are ocean currents and what do they do for us?

Activity Questions for the Teacher

What methods or techniques or ways can you use that will give students a feeling of being appreciated, liked, useful, successful, included, important; a feeling that their wishes or suggestions are being considered or that they are growing in ability or skill?

What methods or techniques or ways can you use that will promote cooperation between the students and the teacher in helping each other, in sharing information, in asking or giving assistance?

Activity Questions for the Learner

Next time what would you like to do?

What do you think are the forces that cause . . .?

What suggestions would you make as to . . .?

How would you give directions to . . .?

These and similar questions can be written about nearly any subject area, concept or idea. In order to answer this type of question, the learner uses information in the cognitive and psycho-motor domains of learning it is true, but what is more important, this type of question allows the learner to perform in the affective domain of learning as well. This type of question fosters more productive and creative thinking.

This type of question asks for more than just knowing and understanding. This type of question involves more than just a simple answer of a few words. This type of question involves the more complex processes of sifting, analyzing and evaluating information, then applying, organizing and synthesizing previous learnings and experiences in order to formulate an adequate and complete answer.

Whenever we can stimulate a learner to think creatively by asking for an opinion, or an evaluation, we are working more in the affective domain area of learning, inasmuch as the learner will be expressing what he thinks: his value, judgment, attitudes, feelings, philosophy and even his emotions.

With some thinking and planning you should be able to write this type of a question in an area covered in your Learning Activity Packet. Questions such as those listed can easily be adapted into Learning Activities and can be written as Affective Domain performance objectives. Learning activities can be organized around these questions so that the instructor can see or observe the learner doing something or else see the product of something the learner has done, as they answer the question.

"Our world will make greater progress when we learn to teach young people how to think -- not what to think."

THE FOURTH DIMENSION OF LEARNING

Principles of effective teaching should involve an understanding and application of the fourfold nature of learning, but in most cases educators, philosophers and organizations have identified only three major facets of learning. Although they have referred to them by varied and different terminology, the three areas are very similar.

There are many references in the past and present literature that discuss learning as being comprised of Knowledge, Skills and Attitudes. For example:

... Johann Heinrich Pestalozzi (1746-1827), a well-known Swiss educator of the past, identified what he called the head, hand and heart aspects of learning which emphasized three areas of learning.

... Later an organization added another "H" (Health) to those defined by Pestalozzi, and then, in promoting these as four functions of growth, the organization became known as the Four H Club.

... In recent years, Benjamin S. Bloom, a noted living educator, has written about a taxonomy of learning which again refers to these three basic areas of learning as the cognitive, psycho-motor and the affective domains.

As these examples indicate, several references can be found that relate to three phases of learning as if they comprised the complete environment for learning. If this were only true, we should be living in an environment of peace, great happiness, joy and unlimited opportunities for growth and development; and prosperity would abound, for are we not now living in a time when there has been no equal to the quantity of knowledge and skills that exist? We are living in a time when scientific knowledge and skills are doubling every four to five years.

If knowledge and skills are the chief function of learning, why haven't we arrived? But look around you with awareness. Almost one-fourth

of the nations on this earth are at war right now. The feelings of hate, discontent, jealousy, distrust and enmity are prevalent to some degree in most people. The stability and influence of our homes and families are crumbling. The trust and belief in governments and the economy are faltering. Why are these conditions so rampant when we have so much knowledge and skill?

What is it that people everywhere seem to be searching for and desiring? Could it be they are looking for the missing dimensions of learning in their environment?

In addition to knowledge and skills there is the area of attitudes that is often overlooked, but in addition to these three there is a fourth dimension that is almost totally ignored by most writers who are specialists in learning.

The fourth area is the all-encompassing Spiritual Growth aspect of learning. It has not always been completely side-tracked, however, inasmuch as many great men, whether they have been in business, industry, the military, or in politics or religion, have often exemplified through their living and in their writings that they have been cognizant of this important and most fulfilling "Spiritual Area of Learning."

There are but few statements, however, that attempt to identify the four areas of learning. One of the most succinct and lucid declarations concerning the fourfold approach to learning has been expressed by Dr. Leland H. Monson:

> "Man is a fourfold being:
> ... a physical man,
> ... an intellectual man,
> ... an emotional man,
> ... and a spiritual man.

The big business of his life is:

... to shape and energize his physical body,

... to discipline his mind,

... to mature his emotions, and

... to cultivate a deep and abiding faith in God.

Only by cultivating these four facets of his life can he raise himself to his highest potential as a human being."*

This well-worded statement exemplifies a true and complete concept of learning for it includes physical, intellectual, emotional and spiritual growth.

The Boy Scout Oath is another averment that outlines more than just the principles of knowledge, skills and attitudes as areas of learning:

"ON MY HONOR I WILL DO MY BEST;
TO DO MY DUTY TO GOD AND MY COUNTRY, AND TO OBEY THE SCOUT LAW;
TO HELP OTHER PEOPLE AT ALL TIMES;
TO KEEP MYSELF PHYSICALLY STRONG, MENTALLY AWAKE, AND MORALLY STRAIGHT."

This oath presents the performance objectives of scouting and is the major underlying and contributing factor that has given that organization its great power for doing good and for building boys into great men.

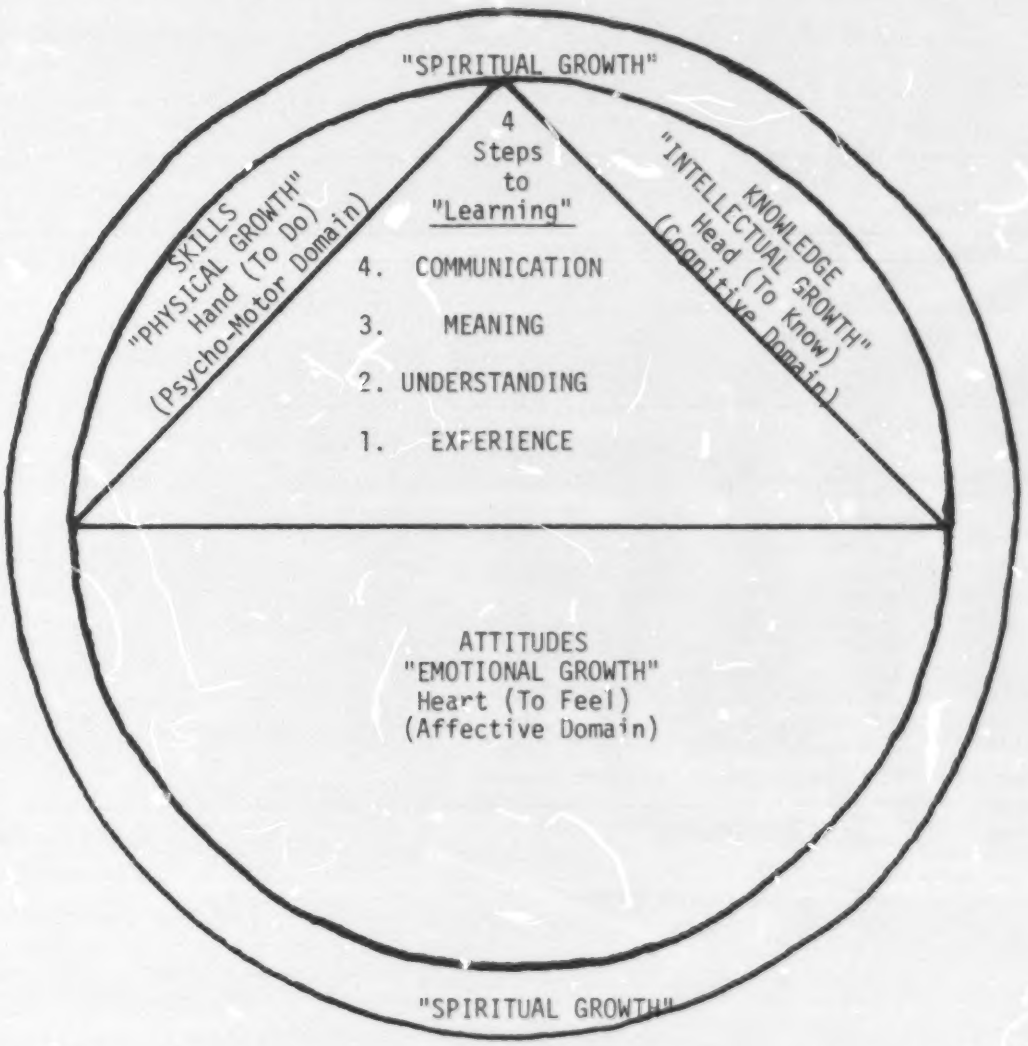
When an organization is concerned with honor to God and country, service to fellow men and moral straightness, then that organization shows that it is well aware of an interested in the attitudinal and spiritual aspects of learning.

The following schematic of learning has been designed in order to visualize the fourfold nature of true lasting learning with some of its related concepts.

*For many years Dr. Monson was a professor at Weber State College in Ogden, Utah, and is presently an administrator of the David O. McKay Hospital in Ogden.

SCHEMATIC DEPICTING

"THE FOURFOLD NATURE OF LEARNING"



SCHEMATIC
by
Thomas Keith Midgley

The writer feels that the following aspects of the schematic or model should be identified and discussed:

1. The basic triangle of learning, consisting of knowledge, skills and attitudes is not depicted as an equilateral triangle because that would tend to indicate that the three basic areas of learning were equal in effectiveness, and the author feels that this is not so. The three areas are equal in importance but are not equal when considering the effect they have on learning.

   The area within the triangle represents learning per se; however, the four steps upon which learning is built are also listed within the triangle. Learning needs to start with EXPERIENCE; then experience builds to UNDERSTANDING. After understanding takes place, it contributes and builds to MEANING and only when meaning is present can COMMUNICATION take place. These four steps are prerequisites to true and lasting learning, for only when these four elements have been present (and in the correct sequence), does LEARNING take place. Learning has to be built upon communication, and communication in turn is built upon the other three elements.

2. The base of the triangle is depicted as the longest side of the triangle inasmuch as that side presents the area of attitudes which is the most important element of the three basic areas of learning.

3. The line representing the attitude side of the triangle is depicted as the broad base of the triangle of learning inasmuch as attitudes (feelings and emotions) actually form the base upon which the learning that takes place in the other two areas of skills and knowledge is built.

4. The inner circle surrounding the triangle of learning depicts the unending cycle of learning and the ever-continuing need for growth and development.

5. The total area within the inner circle represents the environment that is conducive for learning that needs to be present for the learner in the areas of Attitudes, Skills and Knowledge.

6. The base line of the triangle of learning is located on the diameter of the circle to illustrate the point that at least one half of the environment for learning should be concerned with attitudes.

7. The apex of the triangle points upward depicting learning as an ever ameliorating process. These are teachers who understand learning to be a continual on-going function.

8. The outside circle in the schematic depicts spiritual growth and its influence as it encircles the entire environment of learning and touches all corners of the triangle of learning. The fourth

dimension of learning, which is spiritual growth, is not depicted as a fourth side in a quadrilateral approach to learning but rather as a second circle completely surrounding the other three areas of learning that are commonly accepted. This is done in order to illustrate and visually show how important the spiritual learning and growth function is in the whole learning process.

Spiritual learning and growth is an all-encompassing factor and function for it surrounds, encloses, influences, and it can and does affect the quantity and quality of the growth and development of all the other areas of learning.

But how many teachers keep this concept in mind as they undertake the task of teaching?

It is realized that most teachers do not recognize or agree with the fourth dimension, the spiritual aspect, of learning or its role in the teaching/learning process. But what is even more surprising is that there are many teachers who fail even to recognize or concern themselves with attitudes, feelings and emotions and their influence in learning.

The time will come, however, when instructors will realize that effective teaching is based upon understanding and application of the four-fold nature of learning and teachers will organize environments for student learning that will provide for emotional, physical, intellectural and spiritual growth.

In the meantime, however, as we undertake to write and organize Learning Activity Packets, we should include activities and experiences that will contribute to all dimensions of learning.

INDIVIDUAL DIFFERENCES

In the United States and other free countries, one source of strength and greatness lies in the development of individuals to their maximum capacities. It is the duty of parents, teachers, administrators and all who are consciously interested and concerned with the education of the youth to provide for this development.

The content centered teacher, on the other hand, is usually not overly concerned with the student's individual aptitudes, interests, capabilities or potentialities. The following satire exemplifies this concept and reflects upon some teaching-learning environments and curriculum practices.

The Animal School

Once upon a time, the animals decided they must do something heroic to meet the problems of a "new world." So they organized a school.

They adopted an activity curriculum consisting of running, climbing, swimming and flying. To make it easier to administer the curriculum, all the animals took all the subjects.

The duck was excellent in swimming; in fact, better than his instructor, but he made only passing grades in flying and he was poor in running. Since he was slow in running, he had to drop swimming and stay after school in order to practice running. This was kept up until his webbed feet were badly worn and he was only average in swimming. But average was acceptable in school, so nobody worried about that except the duck.

The rabbit started at the top of the class in running, but had a nervous breakdown because of so much make-up work in swimming.

The squirrel was excellent in climbing until he developed "charlie horses" from over-exertion and then got "C" in climbing and "D" in running.

The eagle was a problem child and was disciplined severely. In the climbing class, he beat all the others to the top of the tree, but insisted on using his own way to get there.

At the end of the year, an abnormal eel that could swim exceedingly well and could run, climb and fly a little, had the highest average and was valedictorian.

The prairie dogs stayed out of school and fought the tax levy because the administration would not add digging and burrowing to the curriculum. They apprenticed their only child to a badger and joined the groundhogs and gophers to start a successful private school.[1]

* *

The challenge then comes back to the school. Both the community and the school need concerned teachers who will foster more positive attitudes, more belief in self, more individual responsibility, more independence in creative experimentation, more exploring, more divergent thinking and more individual attainment of capabilities among all students.

One of the greatest needs of our country is to develop individuals who not only challenge the status quo but also have the ability to ask intelligent questions so as to develop solutions to problems, not just point out problems, pull down existing structure, belittle beliefs or find fault with people or organizations without presenting some organized plans and suggestions for remedies or the betterment of society.

"What is right for an individual may not be right for the group; likewise, what is right for the group may not be right for the individual, as soon as something is made compulsory for all, many rights of the individual have been lost."[2]

Abraham Lincoln made some suggestions concerning individual needs:

... "You cannot strengthen the weak by weakening the strong."

... "You cannot help the wage earner by pulling down the wage payer."

... "You cannot further the brotherhood of man by encouraging class hatred."

... "You cannot help the poor by destroying the rich."

... "You cannot build character and courage by taking away man's initiative and independence."

... "You cannot help man permanently by doing for them what they could and should do for themselves."

Our culture at times seems to say groupness, togetherness, one big happy family is our goal; we should be alike, do the same things, have the

same things, visit the same places, etc. We, however, should not let this deadening influence overcome us as a people. This should never be the kind of philosophy we as a nation desire to follow.

"In reality there is little chance of getting
people together in any cooperative effort as
long as most people want to be:

... In the front of the bus --
... In the back of the church --
... And in the middle of the road
in most other things they do."
Anonymous

Dr. Moffitt made the following statement and observation following his visit to Russia. "In Russia there is no interest at all, whatsoever, for individual differences. The great concern of the Russian nation is to make all their people into one mold, a classless society.

"A Russian who lives happily under the present system of government in Russia must either believe that man has no soul, or that if he has, it is not worth developing."[3]

Instead of our following this socialistic trend of thought, our nation and our people must set a goal of fostering further the concept of free enterprise and of being productive, self-thinking individuals. We must preserve the freedom of choice: the freedom to choose where we live, travel, work, etc. We can't press everyone into the same mold.

"Free Men are not Equal
Equal Men are not Free
Nothing is as Unequal
As the Equal Treatment
of Unequals."
Anonymous

All around us nature testifies of a strong sense of individuality.

Consider the individual differences that exist in snowflakes, leaves of the same tree, blades of grass, grains of sand, kernels of grain, and stars in the heaven. "For one star differeth from another in glory."

(I Corinthians 15:41). All these things may look alike, but yet no two are exactly alike. If there are such unique differences in these similar looking objects, should it be so difficult to believe then that each human being is different from another?

We know that human beings differ in body build, height, weight, coloration, maturation, nationality, culture, likes, dislikes, growth, coordination, development, verbalization, rate and ability of learning. (These are just a few indications of individual differences.)

"In many ways in life, we are thoroughly accustomed to the idea that things have to be the right size for their purpose. We measure a child's foot so that we can pick a shoe that will fit him. We measure the height and weight of a man so we can fit him properly with skis. We measure out portions of food to fit the capacity and appetite of the infant or the man. We are also quite careful about the kind of food we give to an infant. It might be very simple and still nourishing. All of this effort to get things of the right size, requires careful analysis of the person who is going to use it or the purpose for which it is to be used.

"Teaching is like this also. A lesson is like a pair of shoes, or a meal being prepared for a person. It needs to be the right size so to speak. That is, it must be the kind of lesson he can understand and learn. Otherwise, it may give him mental indigestion, if indeed he is able to swallow it at all."[4]

One of the world's great creative persons made the following statement: "You see how important and unique is each species: how no two toads are ever equally ugly, and no two roses have quite the same beauty. I watch and I see that the tall organ-pipe cactus grows in the dry desert, and the small white Dutch clover grows on my lawn, and that they cannot change places - nor would they try. Each has its own pattern and fulfills it without attempting to be

an orchid or climb a tree. And more problems drop away as we realize that we too, have a unique pattern, by species, and a unique expression of that pattern as an individual. Everyone has a special talent and will express it in a way which no one else can do."[5]

This advice is from another great artist . . .

"Don't be an imitation . . . be yourself . . ."

"In all the years I have been in Hollywood, I have had one basic advice for the actors or actresses who were trying to be like the current film favorite, for the directors trying to copy someone else's style, for the writers trying to imitate more successful authors, for everyone trying to be something other than what they really were . . . 'Be Yourself!'

"For that is my own way of saying, 'To thine own self be true' . . . and it is only by being oneself that an artist can keep his artistic integrity or any human being can preserve his personal integrity."[6]

Even with these thoughts in mind we still often hear of requests for homogeneous grouping. Dr. Helen Hefferman had this to say about grouping. "There is still a lot of grouping for grouping going on in our schools. We are still trying to bundle our people in groups so we can make them all alike after the good Lord has made them all so different."[7]

"Research has shown time and time again that you simply cannot get a group that is homogeneous in more than one ability. Children have important differences within themselves as well as among themselves. They cannot be homogenized. You can get them grouped for one thing, but then it doesn't hold for the next."[8]

"How can we maintain the same standard for everyone when psychology has piled up a mountain of evidence to prove that no two children are alike? Children (in reality, all people) differ from one another in every conceivable

way: background, capacity, interests, etc. The curriculum must be flexible if a teacher is to meet the needs of each child at this level. We can't do away with these differences by simply ignoring them."[9]

Do not each of us have our own individual likes, dislikes, goals, aims and abilities?

Should not each of us be allowed certain freedoms, within limits, to work, grow, explore in areas of our own interests?

BILL OF RIGHTS

Let me grow as I be.
And try to understand why
I grow like me.
Not like my mom wants
me to be,
Nor like my dad hopes
me to be,
Or like my teacher thinks
I should be.
Please try to understand
and help me grow
just like me! . . .

(Author Unknown)

This is the primary reason then for our schools to foster individualized programs: they can better meet the individual needs of each pupil.

For many years educators have been experimenting with individualized and independent study programs in math, spelling, social studies, reading and nearly all subject areas; however, the students nearly always have needed constant guidance and motivation in order to maintain interest. The Learning Activity Packet is a technique that can do all that any of the preceding methods have done and even more, for the LAP, when well written and organized, can have built into it many motivating learning activities that maintain and promote interest and the desire to continue toward the accomplishment of performance objectives of learning based upon the learner's wants and needs. More of the responsibility for learning is placed upon the learner, for he

selects Learning Activity Packets in areas of his own interest.

A basic desire for the LAP is to provide a year of growing for each child, each year.

In an ideal learning situation, each student is accepted at his own individual level of growth and development. He is, through the provision of a rich environment, numerous learning activities and experiences supplemented by guidance and assistance from teachers and counselors, allowed and helped to have a year of growing commensurate with his individual interest, needs and ability. These are the basic goals of the LAP.

Most pupils will make a year's growth during the year; however, some will make two or more years' growth during the year's schooling and some children will not make even one. But in every case each child can more effectively be provided with an opportunity for growth when viewed and accepted as an individual.

Evidence of individual differences surrounds and encircles us. We cannot escape nor ignore the evidence. We must be acutely aware of differences that do exist so that we, as parents and teachers, can more adequately meet them. Let's use the LAP as one effective tool.

The following comparison of the educational philosophies of Athens and Sparta makes an interesting contribution when considering the importance of individual differences.

AREA OF COMPARISON	ATHENS	SPARTA
PURPOSE OF EDUCATION	To develop citizens	To develop soldiers
TYPE OF DEVELOPMENT	Intellectual	Physical
GREATEST EMPHASIS	THE INDIVIDUAL	THE STATE
EDUCATION, 7 to 16	In two private schools-physical education and music	In public barracks organized militarily and operated by state
BY WHOM TAUGHT	Teachers--each boy accompanied at all times by slave called a pedagogue	Older boys and military personnel
EDUCATION, 16 to 18	Gymnasium--a public school--and civic training in assemblies and courts	Continued military life in barracks
EDUCATION, 18 to 20	Military training	Continued in barracks as captain over younger boys
AFTER 20	Citizenship at 20; participation in community life	Army service from 20 to 30; citizenship at 30
HIGHER EDUCATION	University of Athens; Philosophy and rhetoric	None
OUTCOME OF EDUCATION	Philosophers, poets, scholars	Soldiers
PLACE IN HISTORY	Great influence of philosophy and education throughout history	Little or no influence

(Author Unknown)

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SELF IMAGE AND ITS ROLE IN TEACHING AND LEARNING

Self-image, the way a person feels about himself, is probably the most needed, influential and basic factor that affects, to a great extent, all attitudes and learning.

A person must have a good self-concept, a good feeling about himself, a good image of himself before growth, development, advancement, progress or learning can effectively take place in any study area. Attitudes are more important than aptitudes. The attitudes, "I will do my best," "I think I can," "I will try," are more important to success and learning than all the high intelligence quotients that can be accumulated.

Certainly intelligence and ability are important, but without proper attitudes toward oneself as well as self-commitment and drive, the intelligence by itself usually lies dormant or dies.

Forcing a person to attend a class or to study in a given area is no guarantee that that person will absorb, grasp or learn what is being taught or presented. Coercion always plays an insignificant role as far as positive learning is concerned. This is especially so when the above mentioned self-attitudes are not present.

There is a definite need for the student to have this good, positive feeling toward himself before instruction or any learning can be effective. These positive progressive attitudes are in reality the motivating force that make students tick. Maxwell Maltz in his book Psycho-Cybernetics makes this statement: "The 'Self-image' sets the boundaries of individual accomplishment. It defines what you can and cannot do. Expand the self-image and you expand the 'area of the possible.' ... The development of an adequate, realistic self-image will seem to imbue the individual with new capabilities, new talents and literally turn failure into success."

These thoughts are again reflected in the following list of a few of the attitudes and conditions that need to be present if progress is to be made in the teaching of any subject area.

. . . A student must feel good about his possibilities to learn.
. . . He needs to be able to pay attention more than he ever has before.
. . . He must have a desire to progress and want to learn.
. . . He must be willing to work, to listen, and to be taught.
. . . A person must feel good about his progress.
. . . Each student needs sincere individual attention and interest.

Teaching is a complex skill. It necessitates being acutely aware of how people think, feel, develop, behave and learn. It also entails a thorough understanding of children's physical and mental maturity, as well as a knowledge of their background of foundation building experiences.

A rich background of first hand experiences is extremely vital and basic for every child, for it is only upon this store of experiences that

future, more accurate and more complex concepts can be meaningfully built by the student. Interest, meaning, commitment and purpose are other influential factors that affect the teaching-learning processes.

There is no one method of teaching. We need to be able to use the best of all methods, tools and techniques. Basic to any teaching-learning program is the bringing together and acquiring of a great deal of interesting material on various interest levels.

Some of the goals or aims basic to a good teaching-learning program are comprehension, retention, understanding, self-confidence, self-belief, versatility, various interests, problem-solving and critical thinking skills and the power to evaluate and see relationships.

In teaching the instructor should foster and develop praise, acceptance, support, T.L.C. (tender loving care), achievement, moderation, trust, belief, student judgment, drive, interest, proper attitudes, self commitment, consistency, and above all, a good positive self-image for every student.

This is rather an impressive list of criteria for learning; however, a good percent of these requirements are present in a well-organized Learning Activity Packet.

STRESS AND ITS AFFECT ON LEARNING

A clear understanding of the power of stress should be of utmost importance to everyone, for it is probably the major cause of psychosomatic illnesses.

We may first want to define the term "psychosomatic" before we move on. "Psych" means or refers to the "mind." "Somatic" means "body." The "o" is the glue holding these two words together. This term is a two-way street, and both parts are important. There are times when the body causes illness in the mind, as well as times when the mind causes illness in the body. Physical illness, such as eczema that crops up after Easter, has rather clear implications that the child has an allergy from eating too many eggs or too much candy. Just as we read these signs, so must we be able to read the signs of psychosomatic illness.

Dr. Randall* has made the statement that during each school year many students, complaining of abdominal pain or diarrhea, come to her for treatment. These illnesses seem to be more prevalent with boys than girls and tend to especially occur around the second grade. These conditions usually show up in October, again just before Christmas and again in March. Some cases last until May but almost all clear up by June. She went on to say that teachers need to be aware of the teaching-learning practices that cause or are related to these psychosomatic illnesses. She felt that if we can become aware of these causes and can read the symptoms, we will be better able to help our students if cases show up in our classrooms. This knowledge and information will also help develop in us, as teachers, more empathy with our students as well as increased understanding concerning the functions and reactions of our bodies.

Women seem to be geared for more long-term stress than men. Men are much more delicate, we find, when it comes to stress. Men have more peptic ulcers and heart trouble than women. Even a baby boy shows more stress, perspires more and cries more than a baby girl, following an innoculation, for example.

Stress has a tremendous effect on our bodies, often resulting in illnesses such as ulcers, asthma, rashes and, in some cases, even deafness.

Stress can be caused by such factors as infection, jealousy, fear, hate, wounds, hunger, exposure, cold, heat or extensive fatigue. These stress producing situations, called stressors, can and often do produce alarm reactions such as shock or fatigue. These alarm reactions in turn cause...

... Blood Pressure falls
... Temperature goes down
... White corpuscle count goes down

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*The basic material for this article was presented in a lecture by Dr. Norma Ellison Randall, a practicing pediatrician in Salt Lake City. Dr. Randall has children of her own, and she has been a teacher.

... Lymphoid tissue shrinks
... Blood sugar drops
... Erosion of mucus membranes of stomach and some hemorrhaging takes place
... In extreme cases, some patients die if the conditions caused by alarm reactions cannot be checked or counter-balanced by the body.

Following the alarm reactions, if the body functions can go on, the General Adaption Syndrome takes over. These G.A.S. reactions should be viewed as a type of check mechanism. These reactions try to get the body back into balance and operating in a normal, healthy way. Then the G.A.S. starts functioning, the ...

... Blood pressure rises
... Temperature goes up
... White corpuscle count goes up
... Lymphoid tissure remains smaller, however
... Blood sugar rises
... Flow from the adrenal cortex gland increases
... Blood clots faster.

The G.A.S. processes gear the body to meet immediate, sudden and dangerous stress or threat, but they are not good for the long haul sort of thing. Our bodies cannot perform for any great length of time relying on the G.A.S. alone. The General Adaptation Syndrome balance and checks mechanism can get worn out through constant excessive stress situations. Multiple or combined stress reactions continue, or course, but without anything to counter-balance. There is a tendency for the body to break down, so to speak, resulting in such things as rheumatic fever, mental illness, or what we call a nervous breakdown, even among young people. Also extreme headaches, ulcers, and many other kinds of psychosomatic illnesses may result. When the stress mechanism is not up to par, the results can be hypertension or the person can become tense, on edge, worn out, etc.

Following are some specific examples of the effects of excessive stress as well as areas of concern that parents and teachers need to be aware of:

A child who has been under stress comes down with a sudden case of meningitis and is found dead in bed.

Some people under stress react immediately, then days later they collapse. (Threats and competition are always forms of stress.)

Research has found that vibrations, air blasts and noise or loud music are also stressors of significance and can cause collapse of the individual.

When working with very ill, disturbed or convalescent students, it might be wise in some cases to let them attend school for only a half day until they have regained their full strength or composure.

Practices such as keeping them in during recesses or after school, or heaping on extra homework or make-up work in order to have them catch up, should be avoided. A reoccurrence of infection, illness or nervous disorders can be the result of stress, pressure or tension during this convalescent period.

We need sympathetic understanding for students who are subject to epileptic seizures or spells. In many instances, these cases are caused by the student tightening up because of mental strain or extreme pressures or nervousness.

Research with animals shows there is a condition that is called nutritive readiness that helps in over-coming stress. It is evidenced by a marked increase in resistance to disease, infections and stress, as well as additional strength and the power to carry on. This condition is fostered by feeding these experimental animals rice water, milk, glucose, etc., at special times during the day. These feedings are in addition to their regular meals.

When are we, as educators, going to transfer these implications into our working with children--especially older children? We have known that when the blood sugar count gets low that our resistance, as well as our productivity, drops.

Many adults take a break for coffee, coke, milk, etc. Around the college campus, we find numerous vending machines containing milk or pop for the oft-needed-pick-up. Even our little people usually have a mid-morning snack, a bottle of milk or a cookie during the day . . . but . . . what have we planned or organized for our junior high or high school students? This is the age group that especially needs this little refreshment break more than any other age group. From experience we know that the first thing we usually hear when a child comes home is the banging of the refrigerator door. This is especially true of the adolescent child.

It may be that this is a problem or concern with which we as parents and teachers should look into. There may be some way that our secondary students can be given anopportunity to build up their blood sugar by some type of refreshment or pick-up break. The test should be worthwhile if the students' productivity increased, and if the mid-morning or mid-afternoon lag decreased. The experiment might be worth a try.

Whether we are a parent or a teacher we need to be aware of the ideal conditions and environment for teaching and learning and the growth and development patterns that affect our children and then, of course, do all in our power to provide these conditions. We should at least be as concerned about the conditions and diet that affect our children as we are of the conditions and diet that affect the growth and development of our nation's chickens, hogs, sheep and cattle.

Summer school can become another stressor. Especially if it is just more of the same. Sending children to summer school can be the result of parental rejection. Adults realize they need a rest from stress, but sometimes they fail to realize that children also need a rest; they also get weary.

There seems to be a growing trend to pile on a little more work and pressure each succeeding year as our students get older. When they reach junior high, we say they are older so they should do more; but this is not all there is to consider. These students are going through a surge of physical growth, a period during which there is an expansion of the glands; thus, this type of thinking is un-psychological. In many cases, we are pushing them faster than they can go. For example, check the suicide rate for junior high school students and you will see that it has gone up alarmingly during the last few years.

Stress toleration level varies for each individual. Teachers and parents must be aware of this factor and watch for these various levels in stress situations. Just as level varies with each person, so do the effects differ.

We as parents, teachers or administrators need to be aware of the stress, pressure, and tension we put on people. There may be times when we demand too much..

One of the first steps is for our parents and teachers to become aware of their own personal stress level and know what to do about it. Many adults have not known the signs of psychosomatic illnesses. Sometimes parents and teachers live too close to problems in order to understand them. It is hoped, however, that some will begin to recognize many of their own symptoms and will now be able to help themselves in order to help others later.

Each individual needs to be taught how to cope with his problems. If he isn't helped, he may withdraw and try to find the most comfortable place he can. In some children, this process seems almost automatic; they just shut off or close out the world, like the little boy who said, "If you won't do what I want, I will shut my eyes and make it dark for you."

Competition is another factor to consider. It seems to surround us: spelling matches, arithmetic tests, number of books read, the mark on a term paper and so forth. In the everyday business world competition exists: man vying with man, team versus team, business challenging business, nation against nation. Some people like to compete, but we must also remember that some people, adults or children, just cannot compete. Some just are not equipped socially, emotionally or physically to compete. When confronted with competition, some become very sick, and as research has shown, every day dozens of people, especially men of all ages, are dropping dead. It is usually called a coronary occlusion--the heart stops. . . just quits. Many of the people were never even sick before. In many cases, stress, tension and pressure are traced as the major contributing cause of death.

Two methods that have been tried in order to aid in the overcoming of general stress situations are as follows (Neither, however, have proven to be very satisfactory.):

1. An operation that cuts the nerve fiber of the thalamus or hypothalamus that activates the pituitary and the cortex of the adrenal glands. With this done, the patient is able to take stress without breaking down; in fact, the organism is not influenced too much by anything, for there is no drive or concern for any of the basic needs of love, affection, recognition, success, belonging, achievement, etc.

2. The second method is through the use of tranquilizers. Drug companies produce the pills and the schools and our complex living produce the market. Tranquilizers do about the same as above; however, they do increase the susceptibility to infection from bacteria and slow down the healing of wounds.

At this point, I would like to suggest a third method that can be more effective, at least in reducing stress situations in the specific area of teaching and learning.

Design a program for teaching and learning that can do away with many of the common stressors: blanket assignments, inflexible time blocks, universal requirements based upon age or class groups, threats, rigid grades that determine success or failure, competition among peers, standardized curriculum and the shape and size of the learning and teaching environments.

This third method for reducing stress is more concerned with environment, growth and development patterns and some of the more ideal conditions for learning. It is the THE SELF-SELECTION, SELF-INSTRUCTIONAL LEARNING ACTIVITY PACKET LEARNING PROCESS based upon individual need, interest and ability rather than on the group process and competition.

In summation, the main message or challenge for teachers and parents is to cut down on stress producing situations, methods, and processes that arise or are created in our classrooms or in our homes. There may be times when we demand too much. We need to be aware of and evaluate the pressures and tensions we put on other people, and then hope they will do the same for us.

SHUNPIKING, PILLS, AND POWER MOWERS*

Improvements, discoveries and innovations surround us in ever-increasing numbers in all areas and in all fields. New methods or systems are organized, improved treatments and cures are discovered and new tools or instruments are created. The great majority of these findings come into being in order to help, assist and add to what is already known and practiced.

Sometimes, however, there seems to be a tendency to misinterpret the use of a new tool. In many cases people seem to feel, as evidenced by their actions, that a new tool automatically does away with all the good preceding utilization practices or policies. This should not always be the case. In the majority of situations new tools should supplement, not necessarily supplant.

Shunpiking

Our country is blossoming with thousands of miles of new turnpikes and freeways. The basic purposes of these highways are to improve traveling conditions, eliminate congestion, by-pass or skirt populated areas and establish civil defense arteries. One may feel at first that these new improvements do away completely with all the old highways. This assumption, however, is not so, for these old roads still have their place. Many happy hours can be spent in shunning the turnpikes and enjoying the unhurried, worthwhile travel on the numerous side roads and byways that are ubiquitous to nearly all country areas. These experiences and insights are worthwhile and can only be gained by shunpiking. Each type of road has its place and still has its use.

Pills

In the field of medicine and pharmaceutical research, new and improved methods, procedures, cures, and treatments are being developed and put into practice every day. Doctors and patients, however, have discovered that no one pill or shot can be used as a panacea for all ills, (e.g., early days or sulpha and penicillin). Some people respond to a certain treatment, some become allergic, some die. Individual differences must be considered in any treatment. The medical profession realizes that as each new discovery comes along, it becomes another tool that can be used when needed. If a doctor is asked what the most important piece of equipment in his bag is, he will probably reply that all are important tools and have their own special time and place for use. New treatments can modify and improve, but very rarely do many of them completely do away with successful, time-tested practices.

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*This paper by Dr. Midgley, has been published in both Utah and Washington state Educational journals.

Power Mowers

It is interesting to watch a large lawn being mowed. At first glance, it would seem that the wide tractor-drawn mower is the only piece of equipment that could adequately cut the many acres of grass. On some of the slopes, however, large tractors will not work, so a smaller power mower has to be used. Later a hand mower is used around the trees, an edger along the curbs and even small hand clippers are used around some special plants. Each new development did not necessitate doing away with the older tool, but rather by cooperative use of the various equipment, a good job was done. Each tool had a place where it could do the best job.

The Tool Box

When a carpenter needs to do a job, he chooses from his box the tool that will do the job most efficiently; as the need changes, the tool changes. One can't build a house with only a screwdriver, but that does not mean that the screwdriver should be discarded. There are times and places that a job can be accomplished only by the use of the screwdriver. All tools have their own individual use and purpose. Even though each tool can perform well its own particular job, there are times when many of the tools need to be used together in order to produce a desired result.

Educational Implications

In the field of teaching and learning, there is a need to be cognizant of many of these same basic principles and of their pertinent implications and applicability to educational practices, technology, systems and learning resources.

What Can Educators Do?

Educators should know their instructional tools. In the teaching-learning process there are numerous educational materials, techniques, and methods available for instructional purposes. These will be considered under three main headings, production techniques, transmission techniques and utilization methods, even though it is realized that all of them are contingent and interdependent.

Production Techniques: Among the numerous production techniques are those used in programming, graphics, silk screening and off-set printing, lettering, flat pictures mounting, laminating, animation, slides, filmstrips, specimen mounting and displaying, enlarging, reducing, copying with diazo, thermofax, picture manipulation, air brushing and photography, using continuous tone, high contrast, half tone, etch bleaching, dye transfer, photo sketching, still and motion pictures, microphotography, time-lapse and slow motion.

In addition to the wealth of instructional materials that are readily available, educators also need to become aware of the

vast variety and quality of educational teaching materials that can be inexpensively produced in local production centers. These centers, when operated under well-trained and experienced personnel, can become a tremendous positive in-service training influence. These centers become a clearinghouse for sharing ideas and a leaven that can and will raise the quality and quantity of teaching and learning. Teachers acquire more benefits than just instructional materials when working and participating in these centers. They also tend to develop more pride in their work and their teaching. Their ego and self-image improve, their creativity and skill increase, their value to their profession and their school is enhanced, confidence is intensified and reinforced, their knowledge of new techniques and procedures is enlarged, instructional preparation is augmented and accelerated and presentations are strengthened.

Transmission Techniques: There are many transmissions techniques such as reading and programmed learning, listening, viewing, lecturing, taking study trips, bringing in resource people, building models, using various analogical and/or digital materials, overlays, dioramas, exhibits, murals, charts, pictures, posters, learning activity packets, local school or community museums, libraries and learning resource centers. Projectors, such as the motion picture, slide, filmstrip, lantern slide, opaque, overhead, micro, microform and the miltiplexer are used. Equipment, such as that used in radio broadcasting, tape recording, language and learning labs; auto instruction with continuous loop cartridges; teaching machines, the sound page; computer assisted instruction; the systems approach; closed circuit and instructional television production and video-taping is important in the transmission techniques. Display boards, such as the pin-tack, chalk, planning and paste-up, flannel or felt, electric, magnetic, peg, vinyl, slot, acetate pocket, venetian, scroll-loop or crawl, the hook and loop, etc., are also valuable presentation methods.

Utilization Methods: After teachers and trainers are made aware of production and transmission techniques, they then need to know the cost, the quality, the practical aspect and strengths and weaknessess etc., of various materials and methods, and they need to know about storage and retrieval processes. There is also a need to know the where, when, why, and how of each tool. After a discussion about and discovery of the usable tools that are available for an instructional materials kit, it is possible to follow through with evaluation and selection which are other important aspects and functions of utilization. Effective utilization procedures and practices are also based upon a knowledge of teaching, learning and communication theory, the use of language, an understanding of perception, the effect of proper planning, layout, and organization, and the analysis of the process of change, need, audience, purpose, and performance objectives, etc.

Search out and use better instructional processes. The major problem of educators seems to be getting thoroughly acquainted with the tools available for use and then utilizing them. The various tools, components, approaches and methods must be intelligently understood by teachers in order for them to be able to use them wisely. It is the responsibility of teachers, administrators and educational media and technological specialists for learning resources in all age and grade level areas to be aware of, search out, find, and then practice the better ways. It should be pointed out that if better teaching methods are known and yet are not practiced by professional educators, then these educators are no better than, and do not have any more advantage over, the lay public or non-professional teachers who do not know or understand better teaching procedures. There is no valid reason why educational practices should be lagging fifty years behind industry and other services which are eager for and adopt current technological advancements. Education, like communication, is an on-going and ever-changing process and thus it should never stagnate or become static, allowing mold and decay to take root.

Educators need to understand the basic underpinnings and the philosophy that forms the foundation for the use of educational tools. They should understand the importance of self-image, individual differences, group dynamics, basic needs, and other motivational factors that influence the acquiring of knowledge, skills, and positive attitudes. By having further understanding in these areas, it should be easier to select and utilize the right educational tool.

While there is no one way to work with all students, there still is evidence that some ways are better than others, based on research in the field of human growth and development. After educators acquaint themselves with the research, findings and experimentation that is going on, they then need to be flexible enough to inculcate into their teaching those trenchant and more potent procedures, practices, materials and methods that will be most beneficial to their students and assist them in their learning. Educators must be able to pick from the tool chest of curriculum and methods those tools that will help the learners grow, develop and advance commensurate with their own individual ability, motivation and needs, knowing that these various methods and aids will be in a state of flux and will change as the individual changes. Individual needs of students require that the teacher vary the use of each tool because, no matter how good a tool is, it will not prove to be the best thing, at all times, in all situations, for all people.

The major question should not necessarily be whether an educational tool or an instructional method is good or bad; but rather the primary concern should be, if a tool is used, what good will it do for the individual student? Will it improve the present learning environment or provide a better learning environment for the student? How will it help the student to learn?

Don't use the pendulum approach. Much of the trouble in education not only comes from being unaware, ignoring or not using better teaching-learning processes, but also from overworking and/or overusing a good old or new tool. Some educators seem to adhere to the misconception that there is only one way to do something, one method to accomplish a given task, one way to teach.

Why do educators have to swing to such extremes from one side to the other like a pendulum? Why do educators feel that they must either do things this way or else that way? In teaching why must it be workbooks or no workbooks, phonetics or no phonetics, self-selection or a lock-step program, grouping or no grouping, all team-teaching or no team-teaching, spelling lists or no spelling lists, individual classrooms or the total open school concept, math assignments or no math assignments, autocracy or laissez-faire, giving of grades or no grades, all parent-teacher conferences or no parent-teacher conferences, more homework or no homework. In using equipment, why should educators feel that the overhead projector supplants the use of the chalkboard or the opaque or slide projector, or that the hook and loop board does away with the flannel board? Why must some instructors use an all lecture method or rely only on outside resource people? The idea that a procedure has to be either this way or that, or that a method is either all right or all wrong, is not a true understanding of the process of education. It often takes more than just one piece of equipment or one approach or method of presentation to help a student learn. Various tools must often be utilized in concert in order to obtain optimum results.

Use real first-hand experiences. Ideally, creative teaching utilizes actual doing activities and experiences wherever and whenever possible, because real experience provides the environment and conditions that foster and promote more meaningful, concrete learning, improves involvement and motivation, aids in the formation of more accurate attitudes, increases familiarity with subject matter, assists in the acquiring of relationships and fosters individual growth and development, individual creativity and critical thinking. Real experiences help the student build upon simple concepts and then reason, sift, distill, expand, change and even combine and harmonize learning into a new or more complex concept. Learning begins with the near and the perceived. We see before we can understand. We understand before we can express.

Use vicarious experiences. Practically, however, educators often need to bring into their classroom many tools that are actually substitutes for the real thing or experience. In reality these materials usually provide for the learner a very important and meaningful, although contrived or vicarious, experience which often helps him to better understand ideas or things which are too small, too big, too slow, too fast, too ancient or too far away.

Sometimes using the old tool is best. Another important factor that teachers need to be aware of in utilizing teaching tools is that even though many of the new instructional materials, processes, and equipment have been designed to foster individual participation and experience, there still may be times when the old tool is even more efficacious than the new tool for some purpose. For example, consider the old hand butter churn. By actually using this item, the student gains better insights, experiences and understandings as to the function of the churn and the processes of making butter than can be gained from just viewing a large, modern, electrical churning drum in a dairy. In many cases the new tool is so designed that it hides or covers the basic processes or steps which are often so necessary for lucid understanding and the formation of foundational concepts.

The use of the old or new teaching tool or combination of tools should be done with discrimination and in relationship to the central purposes to be achieved.

How Can These Educational Needs Be Fulfilled?

More training? Most educators sincerely desire to improve themselves and their teaching, but at the same time, it is realized that most of the faculty and personnel in a school, school district, college or university are already far too involved with their teaching or their administrative problems to be able to spend additional time and energy in evaluating, selecting and organizing instructional materials for others or for even their own use. There always seems to be a shortage of time and energy and sometimes even know-how in accomplishing desired curriculum objectives.

If, however, this needed service to teaching and learning is ever to be available, someone needs to step forward and undertake this task of organizing and integrating curriculum materials. Whether musical instruments, cooking ingredients or teaching-learning processes are used, someone needs to be able to do the blending, the harmonizing or the intercorrelating of the parts. Someone has to be able to evaluate, select and efficiently utilize the right amount of each so that the various components will work together to produce conditions appropriate to the results desired. Someone needs to weigh conscientiously the content, scope, depth, usefulness, completeness, urgency, reliability and validity of each message-making material. Someone needs to consider the source, the setting, the objectives, and the effect of, as well as the cause, audience, and purpose for, educational methods. Someone needs to analyze instructional messages, for some should be shared and passed on, some need go no further, some need additional evaluation and discussion, some should be forgotten, some ignored, some clarified and some filed for future use.

Specialized help. There exists a need for an instructional media and educational materials specialist who is trained, experienced, and prepared to assist, improve, develop and organize better materials and methods so that teaching tools can be more effective in the presentation

of ideas or messages. This is an important facet of teaching and learning, for when a message or idea is presented lucidly, it has a greater potential to promote and accelerate the formation of more meaningful concepts by the learner and facilitates the desired communication, perception and understanding within the learner. An enlightened teacher communicates and an enlightened student perceives what is being communicated.

The field of education needs master teachers and instructional technologists and media specialists who are authorities in their field, who are observant of research and advancements in their areas, who can develop and administer a learning resource center, who take pride in their work, who incorporate into their teaching the best methods and who defend with professional vigor their vocation, associates and the cause for which they are dedicating their lives.

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...Individual Learning Systems, Inc., P.O. Box 3388, San Rafael, Calif., 94902 (a source for several books and booklets concerned with individualizing instruction.)

...Teachers UNIPAC Exchange, 1653 Forest Hills Drive, Salt Lake City, Utah, 84106. A source of information concerning individualized instruction Packages and UNIPAC MICRO FICH.

SPECIAL NOTE:

A small center for Learning Activity Packets has been established by Dr. Midgley at Eastern Washington State College, Education Department, and is housed in the Center for Instructional Communication. At present there are several hundred examples of student and teacher produced packets in most subject areas. These are available for examination and use at the Center.